

WELFARE IN INDUSTRY

Edited by

BLAYNEY THOMAS

Editor of "Personnel Management and Welfare"

Member of the Advisory Council of the Institute of Welfare

In collaboration with

**OTHER INDUSTRIAL
WELFARE AUTHORITIES**



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PREFACE

THIS book has been planned by a group of people in an attempt, which we trust will prove acceptable, to equip the newly-appointed Welfare Officer with a reasonable and readily available guide to his work; we have also had in mind that his more experienced fellow may welcome such a symposium as we have gathered. The authors of the various sections are well known in their respective fields, and are competent to give due emphasis to those aspects of their work which, not obvious to the outsider, are of the greatest importance to the man on the job. It is our hope that this effort to synthesise the views of leading members of the Industrial Welfare profession and its ancillary departments may prove to have some documentary value.

The various sections of the book cover the major aspects of the Industrial Welfare Officer's work—in the main those departments which carry their own technical sub-staff. For example, the medical side of industrial welfare, though under the strategic control of the Welfare Officer, has its own "tactical" staff, skilled and specially qualified. Other subsections are not quite so watertight as this, but their basic plan is much the same.

In addition, we have devoted two Chapters to what may be called "Background Liaison," which give comprehensive details of the Industrial Welfare Officer's opposite numbers in social welfare and in the various specialised organisations in which the men and women for whom he works may find assistance. The work of the Welfare Department does not end at the factory gates, and subjects as diverse as block bookings for holiday camps and hostels and the address of the nearest official of the National Society for the Prevention of Cruelty to Children are quite likely to crop up when least expected.

The experience placed at the reader's disposal is entirely British, and no account has been taken of American or other foreign practice. There is, however, much to be learned from the study of other welfare ideals, and we can recommend the enthusiast to read whatever he can in this field. The United States of America has many valuable journals devoted to welfare and to personnel handling, and there is also much to be learned in Belgium, in France and Holland, in Czechoslovakia and in Poland.

I would like to take this opportunity to thank all those who have collaborated with me in the production of this book, and the proprietors of *Personnel Management and Welfare* for granting me facilities to act as Editor. I am very sensible of the responsibility which I have undertaken; I trust that our readers will agree that our intention has been carried out.

F. J. BLAYNEY-THOMAS;

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CHAPTER I

HOW WELFARE BEGAN

HISTORICAL SURVEY AND APPRECIATION

By William H. Watkinson

WHAT do we mean by Welfare in Industry? What does that word, which is so widely used today, really imply? *The Concise Oxford Dictionary* defines "welfare-work" as "efforts to make life worth living for workmen"; that is, indeed, a broad concept. Does it mean that industry must concern itself with all things which might add to, or detract from, the worth-whileness of a workman's life? And, if so, who is to be the judge of what is worth while?

The industrialisation of the country destroyed a social order. It so changed the social and physical life of the nation that it is difficult, if not impossible, to determine the boundary of industry's responsibility for our present mode of living. That being so, it may not be unreasonable to expect industry to take an interest in all the results of its activities.

Let us survey its development, and see if we can, by examining the past, determine the present and make sane, sound plans for the future.

THE LEGACY FROM THE PAST

The advent of what is called the "Industrial Revolution"—a revolution which one ventures to suggest is still in progress—quickened the tempo of an already changing social order. To the enclosure of land, which was proceeding apace and depriving the labouring classes of their right to the use of the common land, was now added the destruction of the "cottage" industries—killed by the large factories.

No one will deny the great material advantages which industrialisation has given to the people of this country and the world, but surveying retrospectively it is possible to see that those advantages should have been secured at a lower cost in human suffering. The enthusiastic impetuosity and, at times, ignorant indifference of both individuals and the nation as a whole extracted too high a price. History is full of glorious achievements and ghastly mistakes. Industry has its full share of both and, as in other spheres, the effects of the latter persist for generations. It is important that we should understand those mistakes and their significance, for they represent the core of the industrial welfare problems of today.

In these days of State care for children and young persons, it requires a vivid imagination to picture the appalling conditions under which very young

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children were compelled to labour in the coal-mines and factories of Great Britain in the eighteenth and nineteenth centuries.

After the "Revolution" had been in progress for close on seventy years, Robert Owen, comparing the lot of the slaves in Jamaica with that of the factory workers in Britain, said: "The West Indian 'slave,' as he is called, is greatly more comfortable and happy than the British or Irish manufacturer or day-labourer."¹

With such conditions it is not surprising that factory work was unpopular, and that forcible breaking up of village life was necessary to compel the labouring classes to take work in the factories. In 1802, Sir Robert Peel the Elder secured the passing of an Act of Parliament to regulate the Health and Morals of Apprentices in Cotton Mills. This Act limited the hours to *twelve* per day, abolished night work and regulated boarding arrangements, but it was confined to pauper apprentices. Its enforcement was in the hands of the Justices of the Peace, but as no provision was made for regular inspection and report on the observance or otherwise of the provisions of the Act, its effectiveness is doubtful. It was a meagre Act, and its chief importance is the establishment of the principle of Government regulation of industrial conditions.

Until the Act of 1833, when the first Factory Inspectors were appointed, there was no real supervision of industrial conditions. There were some conscience-controlled employers who made genuine efforts to ameliorate the harshness of life of their workpeople, but the degree of that amelioration was limited by the widely held Malthusian belief that poverty was inevitable for the majority of mankind; "that the object of labour was not, as had formerly been thought, to supply a comfortable subsistence to the producers in the village community, but to turn out the greatest possible quantity of goods and so increase the nation's wealth."²

The factory owners were mainly men who had fought their way to their position by their own ruthless energy. The race was to the swift and the strong. They had no time, and—as good disciples of the prevailing doctrine—no inclination to bother their heads with such a nebulous and altruistic theme as "Welfare." Women and children must work in the mines and factories; they must work long hours; human happiness was not the goal of existence; it was production, greater and greater production. Humanity must serve the machine, and in due course the machine might serve humanity. The materialistic age had dawned. Many of the factory owners of those early years were compelled to provide living accommodation for their workers. That they did so on the cheapest and most primitive lines, even by the prevailing standards of the times, left a legacy which has not yet been liquidated.

Of the industrialists who endeavoured to improve conditions, Robert Owen towers above his fellows. In 1800, he acquired an interest in the New

¹ *British Co-operator*, 1830, p. 93.

² *British History in the Nineteenth Century and After*, G. M. Trevelyan, p. 143.

Lanark Mills, and commenced the experiment in "industrial welfare" which was to attract the interest of the civilised world. During his period in Manchester as manager of several cotton mills, he had formed certain theories and, in a minor way, had put them to the test. His Manchester businesses had been particularly successful and had yielded handsome profits. At New Lanark he decided to develop his theories on a more comprehensive scale.

From his writings years later, we know that he took over the "government" of the New Lanark Mills with a definite objective. "I say 'government,'" he wrote, "for my intention was not to be a mere manager of cotton mills, as such mills were at this time generally managed, but to introduce principles in the conduct of the people which I had successfully commenced with the workpeople in Mr. Drinkwater's factory, and to change the conditions of the people, who, I saw, were surrounded by circumstances having an injurious influence upon the character of the entire population of New Lanark. I had now, by a course of events not under my control, the groundwork on which to try an experiment long wished for, but little expected ever to be in my power to carry into execution."¹

Owen recognised the physical, moral and spiritual harm to humanity which had followed in the path of industrialisation. He accepted the responsibility implicit in the definition of "welfare-work" and determined to discharge it. When Owen went to New Lanark the conditions were better than many similar undertakings, but in writing of them he said: "It was most difficult to induce any sober, well-doing family to leave their home to go into cotton mills as then conducted."²

Factory labour at the beginning of the nineteenth century consisted of the most wretched members of the community. The dignity of labour was an anachronism; the traditional pride of the labourer in being a "free-born" Englishman had been destroyed; large masses of the people were reduced to a savage struggle for survival. "Parish" apprentices were sent in hordes to toil in the factories and coal-mines. Their ages were officially stated as seven to twelve, but in actual fact they were generally from five to ten; they worked a thirteen-hour day, with an hour and a quarter for meals. The adult workers were men and women of the lowest strata of the urban population starving peasants from Ireland, and agricultural workers driven from the land to the factories as their last refuge from starvation. To these unfortunates, the present was intolerable and the future without hope. Nobody cared what happened to them, or, if they did, it was not evident. The "dark satanic mills," like a pagan god with an insatiable greed for human sacrifice, took their toll.

Into such an inheritance Owen entered at New Lanark. It was a prospect to daunt a man with a conviction less strong than his. His predecessor David Dale, who had founded the mills in 1782 in partnership with Richar

¹ *Life of Robert Owen* (Bell's Edition), p. 78.

² *Ibid.*, p. 79.

Arkwright, had built the houses for the workers and a home for the pauper apprentices. Owen himself described the scene in the words, "the whole system, though most kindly intended by Mr. Dale, was wretchedly bad, and the establishment had been constructed and managed by ordinary minds, accustomed only to very primitive proceedings."¹

It was Owen's belief that "welfare" did not detract from the financial success of an undertaking. He was a brilliant organiser, and his comment on "ordinary minds" indicated his conviction that squalid, inhuman working and living conditions were not inherent in an industrial system, but were due to lack of ability in those who were responsible for its management—a view which, in later years, many firms have successfully demonstrated to be correct. That he combined a sound business sense with a passion for ensuring the well-being of his workpeople was shown when he said: "The changes were to be made gradually, and to be effected by the profits of the establishment."²

Owen not only had to concern himself with organisation and welfare at the factory itself, but also with every aspect of the material and moral life of the families who depended on the factory for their means of existence. Housing, sanitation, refuse collection, hygiene, health visitors, education for both children and adults, shopping facilities, domestic economy, playgrounds and play-schools for the infants—all came within his province. He implemented to the full the "welfare" concept and succeeded in transforming New Lanark into the cleanest manufacturing town in the country.

It was not achieved without opposition. "The workpeople were systematically opposed to every change which I proposed and did whatever they could to frustrate my object. For this, as it was natural for them to dislike new measures and all attempts to change their habits, I was prepared, and I made due allowance for these obstructions. My intention was to gain their confidence, and this, from their prejudices to a stranger from a foreign country—as at this time the working class of the Scotch considered the English to be—was extremely difficult to attain."³

With the example of New Lanark before them, with its demonstrated commercial success, one would have imagined that all employers would have followed Owen's example, and that the nation as a whole, through the Government of the day, would have acted to bring about improvement of industrial conditions. Unfortunately, it was not until 1819 that a further Act to regulate the hours and conditions for apprentices generally (the Act of 1802 was confined to cotton mills and referred only to "parish" apprentices) was placed on the Statute Book, after four years' agitation by Owen and protracted consideration by a Parliamentary Committee.

In 1815, Owen had endeavoured to get his fellow-manufacturers to support him in a demand for improvement in working conditions, but they refused. They did not, however, refuse to support a demand for the

¹ *Life of Robert Owen* (Bell's Edition), p. 84.

² *Ibid.*, p. 84.

³ *Ibid.*, p. 86.

removal of the tariff on the importation of the raw cotton. Owen therefore embarked on a campaign to secure the interest of members of the House of Commons in a Draft Bill he had prepared. His proposals, to apply to woollen, flax and other textile factories, as well as cotton mills, wherever twenty or more persons were employed, included: prohibition of employment under ten years of age, and the production of baptismal certificates in proof of age; limitation of hours to a maximum of ten and a half per day, excluding one and a half hours for meals and half an hour for instruction, for all persons under eighteen years of age; prohibition of night work for juniors; the hours of employment of young persons to be confined to a period between five o'clock in the morning and nine at night; the half-hour's instruction each day to be continued for four years and to be given in a place specially provided and suitable for the purpose. He further proposed that the Justices of the Peace were to receive yearly returns from all factories subject to the Act, and that duly qualified Inspectors, with power of entry to the factories at all times, should be appointed. The Inspectors were to be empowered to demand that a doctor be called in the case of infectious diseases and that the employer should carry out, at his own expense, any measures the doctor recommended. Penalties for breach of the Act were included, varying from £5 to £10 for each offence; half of each fine being paid to the informer who brought about the conviction and half to the poor fund. Copies of the Act were to be posted in each mill.¹

Compared with present-day legislation, it was elementary, but the "welfare"—or humanitarian—conscience was still asleep, and although Owen, following an extensive tour of the manufacturing towns, submitted overwhelming evidence of the inhuman and brutal conditions under which children were working, the Act, when it was passed, was a skeletonised travesty of the original proposals. It applied only to cotton mills; there was to be no inspection; the hours were longer, and the permissible age of employment was lower.

Progress in improving conditions was extremely slow, and it was not until 1833 that a Factory Act was passed which prohibited the employment of very young children; limited the hours of work; insisted upon times for meals and appointed Factory Inspectors.

In spite of the passing of that Act, the "First Report of the Children's Employment Commission," published in 1842, and dealing with the conditions of labour of children and young persons working in coal-mines, contained the most harrowing details. Evidence was given that it was customary to employ very young children. One case was of a child of three! Another, of a child of six, who carried or dragged half a hundredweight every day up a distance equal to the height of St. Paul's. Other children were harnessed to trucks, which they dragged through passages on their hands and knees; others stood in water twelve hours a day working at the pumps in the under-

¹ Owen's Autobiography, Vol. 1A Appendix G.

bottom of the pits. The report also gave details of the work performed by women, and the document was illustrated by sketches.

This Report stirred the social conscience of England, and within a month of its publication Lord Ashley introduced into the House of Commons a Bill excluding all women and girls from the pits, and prohibiting the employment of boys under thirteen. But still the Government of the day refrained from taking the action which the situation demanded.

By nature, the English are a just and kindly disposed people, ever ready to champion the oppressed. Had they not led the campaign to free the slaves? How was it, then, that conditions worse than slavery were permitted to continue within the confines of their own shores?—that they should be so regardless of the welfare of their own countrymen that Sir Walter Scott could write: "A man may assemble five hundred workmen one week and dismiss them the next, without any further connection with them than to receive a week's work for a week's wages, nor any further solicitude about their future fate than if they were so many old shuttles."¹

Surely, it could only be a blind belief that to reduce the hours of labour in industry would bring ruin to the country? A belief of fear, which induced such an inertia in the minds of the leaders of the country that they held their hand. Had there been the present-day appreciation of welfare; had there been the adoption throughout industry of Owen's humanitarian attitude; had there been even a partial effort to implement the "welfare" concept; had there been but half the care and attention given to the workers which was given to the machines, the social history of England would have been changed, and many of the problems now confronting industry would not have arisen.

The economists, who declared that every commodity was subject to the immutable law of supply and demand, refused to recognise that labour consisted of men and women, and was not just a "raw material" of industry.

"No one heeded Coleridge's warning that the price of neglecting human health, breeding and character for the sake of profits would have to be paid with heavy interest in the future. He wrote, 'You talk about making this article cheaper by reducing its prices in the market from 8d. to 6d. But suppose, in so doing, you have rendered your country weaker against a foreign foe; suppose you have demoralised thousands of your fellow-countrymen and have sown discontent between one class of society and another, your article is tolerably dear, I take it, after all.'"²

But the consideration, which in the name of humanity was their due, was withheld, and an embittered industrial population, groaning under a burden which had become too heavy to bear, rose in a frantic burst of rebellion. Much damage was done; many lost their lives, and the workers suffered even

¹ *Familiar Letters*, Vol. 2, 19th May, 1820. Sir W. Scott.

² *English Saga*, Arthur Bryant, p. 64.

greater privation during the short struggle, but it was another stab at the social conscience of England.

Had the money which the "rebellion" cost the country in loss of trade, damage to property, and direct expense in quelling it, been spent on an attempt at social and industrial welfare, it is doubtful if the trouble would have occurred.

"It is certainly a very dismal matter for reflection, and well worthy of the consideration of the profoundest political philosophers, that the possession of such a Constitution, all our wealth, industry, ingenuity, peace, and that superiority in wisdom and virtue which we so confidently claim, are not sufficient to prevent the existence of a large mountain of human misery, of one stratum of society in the most deplorable state, both moral and physical, to which mankind can be reduced, and that all our advantages do not secure us against the occurrence of evils and mischief so great as to threaten a mighty social and political convulsion."¹

In the House of Commons, Lord Ashley said, "Let me ask the House, what was it gave birth to Jack Cade? Was it not that the people were writhing under oppression which they were not able to bear? It was because the Government refused to redress their grievances that the people took the law into their own hands."²

In 1843, he was able to gain the support of the House of Commons to an address to the Crown for the dissemination of religious and moral instruction throughout the country. A Commission was set up to inquire into the Health of Towns. In 1844 a new Factory Act was passed, limiting the hours of labour of children under sixteen years of age to six and a half a day; making additional regulations for the fencing of machinery, and the inspection of industrial premises.

Extensive activity commenced in voluntary social welfare. Many men and women, alone or in some voluntary organisation, spent their time and money to rescue and relieve the victims of an unbridled materialism. Balm for the wounds! It would have been better to have prevented their infliction.

The industrial population—men, women and children—had received less attention, and had been subjected to worse treatment than a farmer gave his cattle. Compelled to toil long hours in mine and factory; beaten and oppressed; their elementary human needs ignored; their moral and spiritual welfare not given a thought; hovels their homes, misery and suffering their portion. In many cases their ancestors had been the yeomen and peasants of England—a sturdy, kindly and proud people. Industrial progress was in very truth achieved by "blood, toil, sweat and tears."

Whether or not one accepts Owen's doctrine that character is wholly determined by circumstances, it must be admitted that it is warped by such conditions as those to which the working population was subjected, an unfortunate legacy, which we of this generation have inherited. Prior to the

¹ *Greville Memoirs*, Part 2, Vol. 2, pp. 119-20.

² *English Saga*, Arthur Bryant, p. 77.

factory era, the working population had, admittedly, worked long hours in their cottages. These cottages, by modern standards, were poor, as many of those which still remain testify. The main differences between living conditions under the "cottage" industry system and that of the factory were: the mass of population congregated in one place; the fact that the labour had been displaced; that people were compelled to work at greater speed in unfamiliar surroundings under a harsh discipline. Bad drains—or no drains—in a scattered cottage community did not constitute the same menace to health as in the industrial towns.

The indictment of the industrialists is that they failed to make provision to meet the circumstances which their activities created; that they failed to recognise, or refused to accept, the obligations of "leadership," with its duty to protect and to help those whom circumstances placed under their control. That a large number of them had risen from the ranks of the working class is of particular significance; they in very truth were regardless of the welfare of their *fellow-men*.

The indictment of the Government is that it failed to keep itself informed of the conditions in the country and that, when it had its attention directed to those conditions, it failed to take appropriate and immediate action to remedy the evils; that it lacked the foresight and imagination to realise the dangers and ultimate consequences of inaction.

In defence of industrialists, of the Government and of the nation as a whole, it must be said that they were faced with a new development which outstripped their capacity to measure and control.

To survey from a distance in time and from an era which we fondly imagine is more enlightened, it is not difficult to see the errors, to be wise after the event. It is possible that if in 2050 a writer surveys the industrial development of our age, he will be particularly scathing in his remarks about the evils in our midst, which we fail to see or which we permit to continue.

The sluggish conscience of the nation was, however, beginning to work, and from the 1840's Parliament came increasingly to realise its dual responsibility of regulating industrial conditions where the workers suffered undue hardship, and of legislating to promote better housing, sanitation and health services. Employers—by compulsion of Acts of Parliament, pressure of public opinion, the ability of their workers to demand, or the enlightenment of their own consciences—improved conditions by the removal of the worst of the abuses. Many of the problems arising from their sins of omission and commission were, however, now beyond their individual power to remedy, even where they possessed the inclination. The voluntary social services, expanded in numbers and function, gave help to those whom legislation passed by, or industry injured.

It must be admitted that, generally, the physical conditions in the factories were superior to those in the cottages, as the following extract from *Hand Loom Weavers' Report* (1840, p. 681, Hickson) testifies:

"In some parts of Bethnal Green and Spitalfields, inhabited by weavers, every house ought long ago to have been condemned and razed to the ground. Ruinous buildings, streets without sewers, overflowing privies and cesspools and open ditches filled with a black putrefying mass of corruption infecting the air for miles around, render the district the abode of disease and death. There are streets and alleys from which typhus fever is never absent the year round.

"With regard to health, having seen the domestic weaver in his miserable apartments and the power loom weaver in the factory, I do not hesitate to say that the advantages are all on the side of the latter. The one, if a steady workman, confines himself to a single room in which he eats, drinks and sleeps and breathes throughout the day an impure air. The other has not only the exercise of walking to and from the factory, but, when there, lives and breathes in a large roomy apartment in which the air is constantly changed. Some of the factories I have visited are models of neatness, cleanliness and perfect ventilation, and there is no reason all should not be the same."

Employers of domestic workers did not always treat them fairly, and frequently compelled them to submit to payment in "truck." Many factory and mine owners adopted a similar practice. Others compelled their workers to buy from the employer's shops and to pay the prices—usually exorbitant—which he fixed. Where the employer owned the houses, as he frequently did, the rent was deducted from the workers' wages. Littleton's Act of 1831 had made "truck" illegal, but had made no provision for enforcement. Owen had provided shops, but his object, far from being to exploit the workers, was to enable them to purchase good-quality products at the cheapest possible prices. There were other good employers who opposed the system of payment in "truck," and in many districts they joined together in an attempt to stamp out the evil.

"There are five Anti-truck Associations in South Staffordshire. We have ample funds to carry on prosecutions and to maintain men who in consequence of joining us in our efforts have been thrown out of employment by truck-paying masters. The cost of these together has amounted to upwards of £800 in ten months. We have laid between five and six hundred informations and obtained about two hundred and fifty convictions and notwithstanding this I do not think we have reduced the amount of 'truck' five per cent."¹

Welfare, as it gradually began to be implemented, was concerned with the fundamental needs of humanity, the struggle for the elementary standards of industrial and social living. There was a four-pronged attack on bad conditions, by (a) the State—through legislation in factory, educational and social affairs; (b) the enlightened employers—who sought to provide better conditions than the minimum the law demanded; (c) the Trade Unions—

¹ Report on Mines. Horner, May 1851.

which fought, sometimes with a misguided zeal, to raise the standards of the workers and secure material and social recognition for their people; and (d) the voluntary organisations—which, in increasing numbers and with expanding influence, sought to bring succour to those who became casualties in the battle of life. Much progress was made, and by the turn of the century the working classes of England had a standard of living greatly superior to that prevailing in 1850. In fact, a table prepared by Professor Bowley shows that “real” wages had doubled during those fifty years. Education was free; the Saturday half-holiday had been instituted; the Trade Unions were established and protected by law; there was compensation for industrial accidents; food was plentiful and in greater variety; the development of transport gave opportunities for holidays; housing was of a higher standard; water supply, drainage, public parks and recreation grounds, public libraries and other communal amenities had been provided by Local Authorities.

Real progress! Life was becoming worth while for the population as a whole. It had not been achieved easily, for all along the line there was opposition to reforming progress, and many a bitter struggle had ensued. The whole nation had been disturbed by industrialisation, and its social life transformed. Human nature being what it is, it is not surprising that each section of the community struggled for a decent place in the new order of society, and that those who thought their position would be made less favourable by any particular reform should be strenuous in their opposition.

The need for employers to provide, as an elementary necessity, the basic things of life for their workpeople had largely gone. Quite a number of them sought to raise those basic requirements to a higher level, and it was now a matter of improvement rather than the sheer necessity of provision.

The number of employers who willingly accepted the responsibilities towards their workpeople which their position imposed upon them had grown enormously. Foremost among these was Titus Salt (afterwards Sir Titus Salt, Bart.), the creator of Saltaire, near Bradford. His achievements in the sphere of welfare entitle him to share with Owen the highest honours for purity of motive and ability in the execution of humanitarian projects.

Born three years after Owen commenced his operations at New Lanark, Salt, by his own honest purpose, his energy, his industry and his ability, fashioned and created, as it were by his own hands, a business giving employment to thousands and carrying in its name the insignia of British industry at its best. This achievement, which included the distinction of founding a new industry by his successful exploitation of alpaca cloth, was greatness indeed, but the crowning glory of his life's work, the pinnacle of the edifice, was the creation of Saltaire.

Saltaire was more than a mere mill, more than a “model” town, for it was the embodiment of a sincere and earnest regard for the well-being of his fellow-men. The site was chosen, not only because it was advantageous from the point of view of industrial and commercial operations, but because its

situation would give to those who were to work there full opportunity for a healthy life. The reason for the removal of the business from Bradford was because Titus Salt would not permit his business activities to aggravate the already over-crowded condition of that town. In designing industrial units connected with the project, the greatest skill and care were exercised to ensure that nothing which would add to the comfort and health of the workers was omitted. The village was planned with the same objective.

At the opening of Saltaire, Titus Salt said "he would do all in his power to avoid evils so great as those resulting from polluted air and water, and he hoped to draw around him a population that would enjoy the beauties of the neighbourhood, and who would be a well-fed, contented and happy body of operatives. He had given instructions to his architects that nothing should be spared to render the dwellings of the operatives a pattern to the country."¹

The motive was the highest which a conception of Welfare can visualise, and in consequence Saltaire was both a "model" industrial establishment and a "model" town. Surely the mantle of Elijah had fallen on Elisha, and Salt in his day fanned to brighter flame the torch which Owen had lit.

"When the Paris Exhibition of 1867 was in course of construction, the Imperial Commissioners established a new order of reward—for establishments created with a view to the welfare of the persons engaged in them. The money value of the prize amounted to 100,000 francs. As Saltaire had become known throughout the country as a model town, the firm was urged to enter into competition, and the chances of success were said to be decidedly in their favour; but Mr. Salt declined the proposal."¹

In response to the reiterated requests from the Imperial Commissioners for detailed information about Saltaire, Mr. Salt, in his covering letter, said: "If the answers given to the questions of the Imperial Commissioners, or if any of the facts, which experiment or experience has elicited, prove of benefit to the public, and should lead others to adopt, and enable them to surpass the result of my effort, I shall be thankful. For myself, I can enter into no competitive rivalry for well-doing, and the particulars and illustrations furnished of the establishment of Saltaire are placed at the service of His Imperial Majesty's Commissioners on the distinct understanding that they are not given in competition for any prize, nor subject to the arbitrament of a jury."¹

Welfare for its own sake was the guiding principle which created Saltaire, and in view of the express condition under which the information was given, no reward was expected. The French Emperor was, however, so impressed that he invested the founder of Saltaire with the Legion of Honour.¹

We have not space to record the many genuine expressions of appreciation which enabled Sir Titus Salt, Bart., to know how well he had succeeded in the work to which he had set his hand, but we quote from a poem com-

¹ *Sir Titus Salt—His Life and its Lessons.* R. Belgarnie.

posed in his honour and read at the opening of Saltaire by a Mr. French on behalf of the operatives:

"For this is his praise—and who merit it not
Deserve no good luck should o'ertake them—
That while making his thousands he never forgot
The thousands that helped him to make them."¹

Each generation has produced its torchbearer of welfare *par excellence*, and Bournville and Port Sunlight are but two of the other names which have become household words synonymous with advanced industrial welfare. But isolated torchbearers are not sufficient to achieve success in the art of living in an industrial community. All—employers and operatives alike—must carry a torch.

Even in 1879, when the Cadbury Brothers built their factory amid green fields four miles from the City, it was considered a revolutionary act and, in the view of many, a foolish one.

To some people, all development which does not conform to established practice, whether it is in the provision of improved material amenities, or in the nebulous field of human relationships, is suspect. How often do we hear the expression, "Why, in my young days, etc."?

The majority of human nature is conservative in outlook and opposed in a minor or major degree to change; a feature not peculiar to employers, but applying equally to employees, as Owen's experience proved. It is a fact which the Welfare Officer has always to remember, for upon his ability to deal with the reactions resulting from this trait depends to a large extent his success or failure.

THE TWENTIETH CENTURY

The twentieth century has been called the age of the common man. Whether this be true or not, it is certainly correct to say that there has been an increasing appreciation of the importance of human needs, both industrially and socially.

Throughout the greater part of the nineteenth century, attention was directed mainly to scientific and material progress, and labour was considered as being no more than a raw material of industry. The twentieth century, in spite of an acceleration in scientific and mechanical progress and the squandering of life and property in the two greatest wars in history, has been marked by an appreciation of the needs and rights of industrial humanity unknown in earlier ages. Both Government and industry have sought continually to improve working conditions. The Trade Unions enabled the workers to demand improvements, and the men and women who, as

¹ Sir Titus Salt—His Life and its Lessons. R. Bagnic.

individuals, had been frustrated in their ambitions for higher standards became militant in combination.

The realisation of the need for a scientific approach to the problems inherent in the employment of labour gradually grew and, stimulated by the need to comply with the numerous Acts of Parliament which were on the Statute Book and being added to year by year, many of the larger firms created special departments, under the control of a responsible executive, to deal with all labour questions. By 1913, the number of specialists engaged in this field of industrial activity was such that the Institute of Labour Management (now the Institute of Personnel Management) was formed following a conference at York. Its object was to encourage and assist in the development of Personnel Management.

Industry had accepted the principle that the management of labour was at least as important as the management of the material and financial aspects, but all employers were by no means prepared to implement the principle.

The First World War.—The First World War, which took women into industries where they were unknown before, created special welfare problems, and thereby gave a great impetus to the scientific consideration of the human factor in industry.

Conditions which had been accepted as reasonable were now found to be inadequate. Factors which had been overlooked automatically forced themselves upon the attention of management. The introduction of night work on a large scale brought new problems. Causes of fatigue received special attention. The provision of seats at working points and the reorganisation of benches to admit of their use; the study of the appropriate time at which it was most desirable to give the workers a "break" in order to maintain maximum working efficiency—these were the sort of problems to which urgent and detailed attention was given. Tea-trolleys toured the factories. The effect on morale and the inducement of fatigue caused by monotonous processes became of vital importance. Experts made detailed examinations, wrote reports and drew charts, which illustrated the rise and decline of human energy. Causes were sought to account for these changes. Facilities for the women's shopping had to be organised; special transport had to be arranged to meet shift-working. Rest-rooms, with a nurse in attendance, became quite a common feature. Feet, the millions of feet of Britain's war workers, became of importance to industrial management. Some of the finer points of physical welfare were *sur le tapis*, many for the first time. Working conditions were of the utmost importance, and Labour Management was becoming a science.

The contrast between the "teens" period of the twentieth century and the corresponding period of the nineteenth could not have been more marked. Humanity was now as important as the machine had been. Unfortunately, the reforms and improvements were mainly introduced of necessity to speed production. Consequently, not all the war-time innovations and improve-

ments were carried over into the 'twenties and 'thirties; neither were all lost. Three steps forward and one back was the measure of the progress.

It would be wrong to imagine that during the war all industry had been carried on under totally improved conditions. The exigencies of the situation had compelled a relaxation of some regulations and a lowering of standards in certain directions, but new regulations had been enforced; some of the shadows had been illuminated, and definite progress in the evolution of industrial welfare had been made. A most valuable outcome of the war was time experience and its disclosure of the need of industry for enlightened advice and guidance in dealing with its human problems was the formation of the Industrial Welfare Society and the National Institute of Industrial Psychology.

Between the Wars.—"During the 1914-18 war the effects of good conditions on production were canvassed seriously for the first time, and for the first time (except as regards the so-called 'dangerous trades') it became possible in 1916 to extend factory legislation to include to a limited extent the provision of first-aid, washing facilities, mess-rooms, cloakrooms, etc., in certain cases. By 1937, when the new Factories Act was passed, public opinion, at any rate in informed circles, was sufficiently strong to secure a wide extension of the legislative provisions in regard to welfare, but in fact, in the period between the wars, the general interest in conditions had largely subsided and *did not come to the fore again until the question of production became of paramount importance during the 1939-45 war.*"¹

The slump, which spread like a dark cloud over the world in the late 'twenties and brought mass unemployment and decay to large areas of the country, was a serious set-back to the development of industrial welfare, and the effect of those years looms large in the minds of the working population.

The Second World War.—The Second World War not only revived the labour and welfare problems of the 1914-18 period on an even greater scale, but brought new problems and difficulties. Colossal war factories—many of which were partially or wholly underground—were built in remote areas. Because of the fear—amply justified—of bombing, the normal practice of establishing new works adjacent to towns with an adequate supply of suitable labour was reversed; the labour was to be taken to the factories.

Mass Movement of Labour—Hostel Life.—The power of direction of civilian labour, vested by Parliament in the Minister of Labour, compelled men and women to undertake the work which Government considered would be most helpful in the nation's struggle for survival. Under the Essential Works Orders, employers could no longer discharge any members of their staffs, nor could any leave, without the consent of the National Service Officer.

Thousands of men and women were compelled to leave their homes—many for the first time—and move at the dictates of the Minister of Labour to distant parts of the country, there to live and work among strangers in

¹ Report of H.M. Chief Inspector of Factories, 1945, Cmd. 6002.

unfamiliar surroundings. This mass movement of labour, unknown before in the history of the country, presented industry and the nation with a new set of problems. Many lived as lodgers in other people's homes; thousands more lived in hostels—specially built or consisting of buildings adapted for the purpose. Communal living became the order of the day. People from every part of the British Isles lived and worked together. When work was over, instead of returning to the family circle, they returned to the hostels, to spend their leisure and eat their meals in the company of their working companions. The days of pottering round the garden at home in the evening, or joining their pals for a chat and a pint at their favourite "local," had gone for the time being.

Factory Canteens and Amenities.—The factory tea-trolley of the First World War was developed into the factory canteen of the Second. "One of the most striking changes brought about by the war is the increase in the number of works' canteens. From being a rarity, a canteen has become a commonplace in factories of any size. At the end of the war there were over 12,000 serving hot meals, not counting those serving snacks. Although their popularity was no doubt stimulated in the first place by the special conditions of food-rationing, long hours and the large number of people living away from home, there is little doubt that appreciation of the service will continue into more normal times; and there is coming to be a more general recognition of the need to make provision for people to take their meals in comfort on the factory premises."¹

Night work had to be carried on in blacked-out factories, from which no glimmer of light must reach the outside. The matter of adequate ventilation under these conditions was a particularly difficult problem. Workers made their way to and from work through a tunnel of darkened streets and country lanes.

Music was introduced on a large scale. Music to stimulate the drooping spirits and flagging energies of factory workers was broadcast at regular times each day by the B.B.C. under the title "Music While You Work," and this was passed to the different sections of the factories through the public-address system. C.E.M.A. (Council for Encouragement of Music and the Arts, now The Arts Council of Great Britain) and E.N.S.A. (Entertainments National Service Association) organised lunch-time concerts in factory canteens.

Recreational facilities had also to be provided for the hostel communities, which in many cases were living an independent collective existence. All the personal needs of men and women had to receive attention. The hostel was the war-time substitute for home.

Such a change of environment and mode of living imposed on large sections of the working population emphasised in the minds of the individuals themselves, and of managements, the link which exists between factory and personal life. It has always existed, but it required this large-scale evacuation

¹ Report of H.M. Chief Inspector of Factories, 1945, Cmd. 6322.

to make it evident. Difficulties which had arisen in the factory affected life in the hostel and vice versa. Under the normal conditions of home life, the emotional reactions resulting from a "bad" day at work were let loose on the innocent heads of the workers' families. It had been a private matter, and although the domestic unhappiness which followed was the direct result of the individual's industrial life, it was not publicly apparent. These emotional reactions now found expression in a more public place. The fundamental truth that men and women were unable to separate their factory life from what had generally been considered their "personal" life was thoroughly exposed, and proclaimed the fact that both were inextricably woven together. That men and women were at all times human beings, with complicated emotional and mental reactions to circumstances, and never "hands" as industry had considered them in the past, was emphasised and re-emphasised. It was discovered that the provision of the most comprehensive physical amenities, allied to just and adequate terms and conditions of employment, were of themselves insufficient to create and maintain a contented and efficient working unit. That "Man does not live by bread alone" became patent.

"It is now a common observation that we are in the midst of a new industrial revolution, typically British in that it is not generally recognised as such because our revolutions take place by peaceful and unspectacular means. The 1914-18 war was notable for the recognition for the first time on a wide scale of the need for the physical amenities provided by good welfare; the recent war years, while emphasising these necessities still more strongly, have advanced the whole conception of what has become known as labour or personnel management to include the psychological side of all work, and in particular the study of the right relations between man and man that are necessary for the smooth working of all engaged in a common enterprise on the floor of the workshop. This advance has shown itself in a number of ways, as in the great increase in the number of personnel officers employed throughout industry and in the work of the outside Welfare Department of this Ministry, but perhaps the most hopeful advance as far as mental outlook is concerned has been in the idea of joint consultation between management and workers through the more general acceptance of Works Committees. Through these agencies will come a greater common interest in industry and a far greater recognition of the worker both as an *individual* and as a human being of intelligence and feeling. Care must be taken that the advances gained are not lost in the ensuing years either through a false economy or a lack of interest."¹

To assist in retaining the advances to which H.M. Chief Inspector of Factories refers, the Ministry of Labour set up a Personnel Management Branch with an Adviser in each Region. These Advisers are available to help firms "wishing to set up personnel departments or to improve existing

¹ Report of H.M. Chief Inspector of Factories, 1945, Cmd. 6992.

organisations, and to give practical help and guidance on the technique of their job to the large number of inexperienced Personnel Officers now in industry and to the smaller firms where the functions of personnel management will be carried out by existing members of the staff and where advice is so often needed and welcomed."¹

"No one has doubted that pre-war personnel and welfare departments would continue in being, but some anxiety has been felt lest there might be closure on a considerable scale of departments established during the war."

It would be a retrograde step indeed if the improvement in physical amenities and the understanding between management and workers which was fostered by the war were not carried over into peace-time operations.

The Building Industry.—No apology is necessary for adding a separate word on the effect the war years have had on the development of a welfare consciousness throughout the Building and Civil Engineering Industries. These industries are without doubt the most difficult of all in which to organise personnel and welfare services. The facilities which are possible in even a small factory are out of the question on the majority of building and civil engineering jobs. The reasons are not always understood by those unacquainted with the conditions and unavoidable method of working in these industries.

The location of the work can only be of short duration, for it is the builders' job to provide the premises and many of the physical-welfare amenities of those who will occupy the building; to do it as quickly as possible and then, like the Arabs, to "silently steal away." This nomadic feature with its consequent rapid change of personnel, as the different tradesmen come and go, makes it extremely difficult to create that close bond of sympathetic understanding between management and workers which can be achieved in the static industries. In many cases work has to be carried on in a confined space, no larger than the building which is being created, and there is no room to provide the minimum physical facilities which every factory worker enjoys. In any case they cannot exist until the builder creates them. He prepares the banquet for others but never remains to enjoy it.

Some idea of the human relationship and welfare organisational problems which confronted these industries during the war can be imagined from the fact that it was common for hundreds, and in many cases thousands, of men previously unknown to one another to be directed to work on a particular contract, where they stayed for a few weeks or months and then dispersed to other sites. On one site, for example, the labour force grew from a handful of men to over 26,000 and was reduced to zero in the space of two years.

These contracts called for the provision of living-quarters on a scale not previously experienced in this country.

"The organisation and control of such civilian camps, with the attendant

¹ Report of H.M. Chief Inspector of Factories, 1945, Cmd. 6992.

² *Ibid.*

problems of sanitation, feeding, maintenance of health and provision of recreation for men of all ages and differing temperaments, called for a degree of initiative and sympathetic understanding quite different from that required in dealing with men under Service discipline and supervision. In 1940, when there was little or no experience of camps for civilian workers, the Department issued a Memorandum (Factory Form 1892 and Annexe) . . . which dealt with the details of welfare amenities necessary on the site during working hours and the layout and organisation of residential camps. At the same time an order was made under the Defence Regulations empowering the Chief Inspector to issue obligatory Directions for the provision of canteens and the employment of Safety and Welfare Officers, but in the outcome very little need was found for the exercise of these powers."¹

A new Code of Building Regulations under the Factories Act of 1937 covers the whole field of building work (the old Code was limited to sites where machinery was used) and deals with matters affecting the safety, health and welfare of the workers.²

As a result of the war-time experience, both employers and employees in the Building and Civil Engineering Industries have realised that, difficult as their problem is, an attempt must be made to improve conditions. There must be no return to what one of the Factory Inspectors described as "the uncivilised standards of former days." Canteens on sites which circumstances compelled during the war are being continued. Compared to the permanent factory canteens they are undoubtedly primitive, but, nevertheless, they are providing the building worker with a hot meal at midday at his place of work, a facility which previously had been confined to those who worked in factories.

The Last War's Contribution to Welfare.—The experiences of war-time, with its mass migration of workers, emphasised the individual human need. Physical amenities, necessary and important as they are, were shown to be insufficient, and the post of Welfare Officer took on a new and significant meaning. His function was no longer confined to the organisation of recreational activities and the supervision of physical amenities. He was expected to be able to help and guide individuals in their personal problems and to assist them in attaining a right perspective of themselves in relation to circumstances. Welfare was recognised as being a scientific approach to the art of living.

In the autumn of 1945, the Institute of Welfare was formed with the object of formulating standards of knowledge, training, conduct and experience required for the proper exercise of welfare functions, and to give professional status to Welfare Officers who satisfy the Society of their qualifications to exercise such functions.

¹ Report of H.M. Inspector of Factories, 1945, Cmd. 6992.

² See also Building Operations (First-Aid and Ambulance Room Equipment) Order: S.I. 377, 1946.

OUR LEGACY—A SUMMARY

The callous indifference to humanity and the appalling conditions which accompanied the birth and earlier years of the Industrial Revolution have long since gone, but there linger on in the conscious and subconscious minds of the working population memories of their early struggles for existence. The "hungry forties," when the people cried for bread to eat, may be history now, but they have not been forgotten. The depression of the late 1920's with its human tragedy of mass unemployment is still green in the memory. There is the legacy of the slums of industrial England—homes for the workers, which an avaricious greed determined should be of the cheapest and lowest possible standard.

Two world wars have shown conclusively that British men and women can endure hardship when the need exists, and undergo it with a patience which is the admiration of the world. It is not the physical conditions themselves which are of the greatest importance, but the attitude of mind, the spirit of genuine good intent, or of indifference, responsible for those conditions which is the fundamental factor. Can one wonder that in the main the industrial worker feels that he is not valued for himself? That the "presents," in the form of improved welfare amenities which have been handed out to him, were largely inspired by "cupboard love" and not with the sincere regard for which he has always craved? History teaches him that industry as a whole has made serious attempts to improve his lot only when there was a shortage of labour and an urgent need to increase production. This ulterior motive, whether of the individual or of the State, is a blot on the escutcheon of industry. It is the cause of the resistance and lack of enthusiasm on the part of employees which has met even the best-intentioned efforts of employers.

There is a deep-rooted suspicion in the minds of industrial workers that there is a "catch" in it somewhere, and with history largely supporting the truth of that suspicion they find it difficult to believe that any new scheme, whether accompanied by the appointment of Welfare Officers or not, is introduced with a single-minded idea "to make life worth living for workmen." The failure of industry to give voluntarily and with a good heart to those who worked in it—that short-sighted policy which is exemplified in the remark of a trade union official who said, "What have we ever got that we haven't been strong enough to demand?"—has created a gulf between management and employees. It has fostered the desire to get as much as possible for the minimum in return. We cannot complain that the policy pursued by the employers of past generations has been copied with enthusiasm by large numbers of the workers. Imitation is said to be the sincerest form of flattery, and it is unfortunate that the employers of bygone days did not set a worthier example.

There is another and very important part of this legacy from the past,

and it is one which commenced to accumulate with the turning of the wheels in the first factory. It is the effect industrialisation has had on the minds and spirits of ordinary men and women, and it is essential that we should appreciate and thoroughly understand it. The advent of factory life did more than change physical conditions and environment; it reduced the individual to a cipher; a number on a time board; a "hand" who was due at the machine at a certain time each day and whose prime function in life was to tend and care for the machine. As an artisan or labourer in his own small community he had been of some importance; he had been an individual. His work had been of a personal character in which he could find expression, but the whirring machine was soulless and the work it produced with his aid no longer bore the stamp of his individuality. He was a cipher among thousands of ciphers. To the frustration which his new situation created was added the neglect of his physical needs by those who controlled the new development, and bitter resentment bit deep into his soul. Industry had no time to consider such things as the soul and spirit of those who laboured in it.

Such is the legacy which industry has bequeathed unto itself.

In considering our mistakes and the possibilities of different remedies, we should not overlook the lessons of the mediæval Craft Gilds. "In spite of the lapse of time they still afford an inspiration to the modern age. The industrial problems which they handled may differ widely from our own, which are at once more complex and involve larger issues; yet in the effort to provide a fair remuneration for the worker, and to reconcile the conflicting claims of producer and consumer, were developed principles of industrial control and conceptions of wages and prices to which we may one day return."¹

The Gilds were more than Masters' Federations, more than Trade Unions, for they embraced the Masters, the Journeymen and the Apprentices. All were bound together by a common interest, and all were concerned to maintain the reputation and integrity of their organisation. There was something akin to "pride of Regiment," and the ambition of each apprentice was to gain the status of "master-man." Apprenticeship was more than a system of technical training, for it was also a social training. "It was intended to fashion not only good craftsmen but good citizens, inspired with loyalty to their city, and willing to give active service on its behalf when summoned to the field or council chamber. In mediæval times the status of citizenship involved real responsibilities, and apprenticeship served as a period of initiation in the public duties which awaited the future citizen."²

The cleavage between capital and labour which the industrial revolution fostered was absent. Masters, journeymen and apprentices worked together to achieve a common purpose. The quality of workmanship and the quality of the training given by the master to his apprentices were both closely supervised by the Wardens of the Gilds. A master was responsible for the quality

¹ *Economic History of England*, E. Lipson, p. 308.

² *Ibid.*, p. 324.

of work his apprentice produced, and the latter could not become a master until he had satisfied the Wardens of the Gild that he possessed adequate skill in his craft. In this way the skilled craftsmen, as well as the public, were protected against the untrained workman.

The Gilds were concerned with all aspects of the lives of their members; for not only did the regulation of wages and conditions of work come within their jurisdiction, but they were also concerned with the care of the poor, the education and religious and moral instruction of the young. Their rules and regulations were devised with the intent to protect those engaged in the Crafts against cheap and untrained labour, and, to protect the public against defective and poor-quality goods and workmanship.

"Diverse ordinances have been made on the working of woollen cloths to the intent that good and true cloth shall be made in the town, as well for the preservation of the good fame of the same as for the profit which they shall take on the sale of their cloth."¹

Fines were imposed on masters for defective work, and in serious cases expulsion from the Craft was not unknown.

Although the Gilds were not perfect, there were many features which we would do well to consider incorporating within our modern industrial system. It would, for instance, be a great step forward if the modern Trade Unions would show the same active concern to ensure a high standard of workmanship from their members as they show to press for increased wages and improved working conditions; if they would inculcate pride of craft and duty to the public.

Dignity of labour is not achieved merely by adequate monetary reward, important as this aspect is, but by work well and truly done.

It would be an even greater step forward if once again employers and employees could find mutual pride in working together in the same industry, jealous for its reputation and continually striving to improve its service to humanity.

PRESENT-DAY SCOPE OF WELFARE

What contribution has welfare to make towards the solution of present-day industrial problems? It is a dangerous occupation to be a prophet and we should be foolish indeed to enter voluntarily into such a hazardous realm. We should, however, examine the legacy from the past, and from its lessons endeavour to determine the course which we should pursue in the future. It may well be that in an enlightened expression of welfare, with all its implications, lies the secret of industrial harmony and the achievement of a full and satisfactory life for industrial England. If we accept our original definition of welfare work, it must surely be the key, for life will be worth while for managements as well as operatives.

¹ *Little Red Book of Britain*, ii, 40.

Let us consider mental attitudes, for they are the core of the whole problem. To implement successfully the welfare concept, industry must recognise that each man and woman is a separate and distinct personality with desires and ambitions, with faults, failings and inhibitions of which he or she is most likely unaware. Industry must also recognise that it is impossible for individuals to separate the industrial and social parts of their lives, and as they enter the factory, to shut out their social and personal problems. Industry has contributed so largely to those social and personal problems that it is not unreasonable to expect it to take an interest in them.

Although in their demands the workers have mainly stressed material aspects, and not without justification, it is not imaginative to suggest that their attitude has been created by past exploitation, and that what they really seek is opportunity for self-expression and for the appreciation of themselves both individually and collectively. Through industrial welfare, this appreciation and the opportunity for self-expression can be provided to an extent not universally recognised. But it must be instituted with a genuine desire to achieve those objects and not with even half an eye to increased production. Workers are suspicious of management motives, a suspicion for which only management is to blame.

There are three main motives in industry which cause men to give their utmost. The first is the fear of unemployment—a fear which in earlier days was the fear of starvation—exploited to the full. The second is the dangling of an ever-growing financial “carrot,” which eventually grows too large for industry to purchase. The third motive, created and maintained by a genuine regard from each side, is a deep desire to give loyal service and satisfy the urge to work usefully which is implanted in every human being.

Of the three, the last is the only one which can be really successful and permanent. It is the one which welfare is intended to foster. It is difficult, but, provided the motive of the management is genuine, it can be achieved. Sincerity of motive and patient understanding are the prime essentials. Conspicuous success has attended the efforts of those concerns where these essentials were present, but failure and disappointment have been the lot of many a firm which has introduced the “new-fangled welfare idea” either from compulsion or merely as a means of trying to keep the workers happy and at the same time increase production. Even when the motives are sincere, managements must be prepared for suspicion and rebuffs. The reformed rake’s progress was never easy, and present-day management has to remember that it has to live down the reputation of its functional ancestors.

The extent to which the modern concept of welfare has already grown is amply illustrated in the various sections of *Welfare in Industry*, and it is unnecessary to dilate upon them here. It is true to say that every facility of which one can think is already being provided in one industrial organisation or another. What is desirable is that there should be a more universal acceptance by industry of its welfare obligations.

What of the smaller firms? How can they provide the innumerable facilities which are a feature of the larger concerns? The short answer is that they cannot. Neither are they expected to do so. Everyone recognises, not least the operatives themselves, that what is possible and reasonable for a large concern is out of the question for the small one. If in the provision of physical amenities they cannot hope to emulate the large firms, they can—and this is the really important factor in the implementation of welfare—provide the right “atmosphere”; they can achieve the harmonious relationship which makes work worth while. Indeed, it is easier with smaller numbers.

If a management is providing the best possible physical amenities, backed by the essential concomitant of a genuine regard for the staff, the latter will not be disgruntled because they cannot have attached to their works the multitude of desirable facilities and activities which are within the capacity of the large firm. We cannot all live in luxurious palaces, but we are not necessarily unhappy because of it. In fact, such an apparently desirable state does not appeal to everyone, and this attitude of preference for the more simple way of life is found among the workers in relation to their place of employment.

The most important problem of post-war industry is that of human relationships. Workers are no longer satisfied to have “doled” out to them whatever a management may of itself decide. They have a new-found consciousness of their rights, and demand some say in what shall or shall not be done. The days of supreme authority, or even of parental consideration, are gone. We are on the threshold of a new era. Such times are fraught with danger, but they are also golden with opportunity. Welfare is the way to grasp the opportunity—to bridge the gap between managements and workers and achieve an identity of purpose. This cannot be done at one stroke, or by the mere passing of a resolution in the board-room, for there is much re-education necessary among all sections who exercise the management function, as well as among the workers. All must become “welfare minded,” with an appreciation of rights and responsibilities, and this will take time. It will take less time if it is aided in each firm by a fully trained and experienced Welfare Officer.

Here again the smaller firms are at a disadvantage, and this time in the most vital matter, for they cannot afford to employ a full-time Welfare Officer of quality for a handful of workers. There is need to supplement the advisory service already provided by the Ministry of Labour, by a scheme which will enable even the smallest working unit to have the benefit of the impartial and sound help which it is the Welfare Officer's specialised function to give. Either by grouping of firms in an area and the sharing of a Welfare Department amongst them, or by the services of visiting Welfare Officers, the need could be met. Why should there not be for industry a Welfare Service modelled on the lines of the Queen's Nursing Service?

MAKE-UP OF THE INDUSTRIAL WELFARE OFFICER

By The Editor

THE emphasis placed by every Minister and Government spokesman on the need for a betterment of human relations in every branch of industry, if we are to overcome the economic troubles which beset us today, but points the value of what we have come to call industrial "welfare" and of the Welfare Officer himself. Speaking in Birmingham during the Government's crisis campaign, Mr. Herbert Morrison declared that it "was useless for the Government to put up posters and make appeals" unless the workers felt that they were being treated in everyday affairs as responsible human beings. Without the real human interest upon which all worthwhile welfare work is based, without complete acceptance of the fact that the "hands" in our factories are brains and hearts as well, no plan for stepping up production can succeed. And this interest and this acceptance are no mere temporary phenomena, designed to meet our post-war troubles and, their purpose served, to be cast aside when conditions return to what may be considered normal. The pressure of "the crisis" will one day no doubt diminish, but it is, to say the least, unlikely that public opinion, and the opinion of the majority in industry itself, will tolerate any major regression from the state in which our human engineering will find itself before we get clear. What has been proved by many firms over many years is now accepted as a basic condition of national recovery, and will come to be considered as essential by all, workers and managements alike, cannot give way even to a partial return to the old suspicions and the old hatreds.

It is therefore obvious that to carry out a national policy of industrial welfare, no less, will mean the appointment of very many industrial Welfare Officers additional to those who all over the country have played a great part in our war production and the change-over to civilian business. These men are in a key position and their responsibility will increase as recovery develops. On them will rest in sober truth a very large share of the burden which industry is to carry for the nation's rebuilding.

How, then, is one to assess the industrial Welfare Officer, and with what yardstick may he be measured? How can industry be assured that the men whom it appoints are in fact competent to do the job? The answer is that there is as yet no yardstick and there is some doubt if there will ever be one. As Lord Leverhulme had occasion to remind the 8th International Management Conference at Stockholm,¹ "the application of a scientific approach to

¹ 8th International Management Conference, Stockholm, July 1947: "Proceedings."

staff management is not simple or easy." He added that the management of people (and in this one must of necessity include welfare as a major management function) had reached a stage where certain basic rules or principles appeared, but the application of these rules would always depend on the possession and the expression of human understanding. These two words "human understanding" are the foundation of all true welfare work, and the Welfare Officer who lacks this virtue may well do more harm than good. It would be a national tragedy if this maxim were forgotten, or overlaid by any rigid framework of rules and professional qualifications, good as they might prove to be.

This is by no means to decry the fine job in training selected entrants to the profession which has been done by the Industrial Welfare Society, many of whose "pupils" today occupy positions of responsibility in all branches of industry. Nor am I unmindful of the more ambitious plans contained in the syllabus published in 1946 by the Institute of Welfare. Neither of these bodies, however, is likely to mistake the letter of a professional test for the spirit which must underlie a vocation.

This then is the position today and for the future:

1. The Nation needs increased production.
2. Maximum production is impossible with a disgruntled, dispirited or suspicious labour force.
3. This means that every worker (and everyone in industry from top to bottom) must be sold the idea that his or her effort really counts (*propaganda*); must be given a chance to know what is going on and have a say in shaping future plans (*joint consultation*); and must have decent conditions—physical, mental and moral—in which to work (*welfare*).
4. The welfare of all employees in a firm, large or small, is the responsibility of management in the first place. This responsibility will necessarily be delegated to a person who should be equally skilled in his calling, as the Works Manager or the Works Doctor.

There are, however, no hard-and-fast rules by which management can assure itself in advance that it has got hold of the right person for this essential work.

Let us, then, see if we can work out an assessment of an effective Welfare Officer, bearing always in mind that the baseplate of his character and make-up is "human understanding." It was indeed the possession of this faculty that saved so many of the hurriedly appointed Welfare Officers of the war years from disaster. They knew little or nothing of factory life and factory processes, but they did understand men and women.

Our ideal officer will therefore above all things be possessed of a true understanding—even a love—of his fellows. He will have in large measure the gift of putting himself in the other fellow's shoes and so inspiring confidence. He will have a real sense of humour and will laugh with as well as at his friends—and sometimes at himself! And he will have a calling.

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true vocation for his work, so that in all the world there is for him no other job or type of work which he would rather do.

He will quite likely already have shown some signs of this all-absorbing interest in people. He will probably have done some voluntary social work, served on a British Legion Committee or been connected with some group activity where he has mixed with persons of differing ages, habits and methods of expression. Some of his corners will have been rubbed down and he will have had his fair share of disappointments—all good training for his future career. He will, too, have come across many of the problems which he will meet inside the factory gates—trouble with relatives, housing difficulties, pensions problems, and the anxieties of adolescents—and he will be in a fair way to realise the great truth that welfare is indivisible.

At the same time he will know his job, and how wide that job can be the varied sections of this book give evidence. He should, if possible, have a factory background, have been through the shops and learned the whys and wherefores. It is true, as I have said above, that many men made good in industrial welfare work who came to it more or less by chance in time of war, and they well deserve the credit they receive. They would have saved a lot of time, however, and possibly many blunders, had they been able to put themselves in the picture before taking over. Similar appointments may have to be made again, and to such men I would say: "Get out into the factory every minute that you can, because it can teach what no book, however well-intentioned, can teach. Don't talk—listen and keep your eyes open. Watch the progress of the work from the raw material to the loading bay and, if you can, go and see 'your' product in service." By following out this plan a lot of background can be gained—and a lot of people contacted.

I have heard it argued in a different connection that the successful Welfare Officer is most likely to be one who has grown up, possibly in some other job, in the firm in which he now serves. Certain outstanding examples go to prove that this may be a good thing, but by and large it is not practical politics. Once get the hang of factory life and, if you are the right type, you will find it comparatively easy to make the necessary adjustments from firm to firm.

The lesser attributes of the Welfare Officer, which all stem from his human understanding, are courtesy, freedom from prejudice, patience, and a sense of balance and proportion. Additionally, he should be an above-average organiser, able to deal with the myriad details of his office but never obsessed by detail and "planning" for their own sakes. He will also be the better for a cast-iron physique. He will have to work long hours and carry the worries and troubles of other people; and these can be very wearying. This is no job for weaklings in any sense of the word, though examples can readily be recalled of men whose will-power was such that it triumphed over the frailties of their bodies and carried them through.

MAKE-UP OF THE INDUSTRIAL WELFARE OFFICER 27

In effect, "courtesy" covers all the human points which follow it. Our man will be able to meet and mix—and argue—with the managing director, the most old-fashioned foreman and the aggressive shop steward on terms of equality and friendliness. He will endeavour to give each one the idea that the Welfare Officer is at his service, as in fact he is. He must cultivate and maintain the friendliest relations with all the oddly-assorted people whom he, above all others in the factory, is hired to weld into a team. He will be approachable at any time—although if he is wise he will have a fixed hour or so for interviews in his office—and will "make time" if necessary to deal with any problem that is brought to him. He will always remember that the other fellow's troubles are never little ones!

He will never by word, expression or gesture show prejudice. All sorts and conditions of people will seek his aid—the shiftless, the dirty and the dishonest as well as others—but he is there to serve them all, and by his serving to make them better workers and better men. Of course, this does not mean that he is to sit down under insolence and fail to criticise where criticism is due; it means that in whatever line he takes he will have regard to the ultimate good of the side.

His patience must be of the highest order. Many of his confidants are people little accustomed to express themselves with any clearness and woe-fully prone to make twenty words do the work of two when they are not completely tongue-tied! He may have to probe and probe again to find exactly what is the connection between persistent lateness or trouble-in-the-canteen and a man's real problem, which may well lie right outside the works.

And he must all the time remind himself until it becomes a second nature that he either stands for fair play and square dealing—and is recognised so to stand by one and all—or had better quit. He can have no favourites, he can know no cause save that of the firm as a whole. He must be able to compromise when necessary, but without sacrificing principles; he must be able to fight hard for what he is convinced is right; and he must be able to look all round a question before he gives a decision, and even then to look again if he has made an error.

The wise Welfare Officer will be a diplomat but with one main difference—his "Yes" means just that! He will avoid controversy and shun the limelight, but will always be on tap when wanted. Naturally in a large works he cannot be physically present in two or more places at once, but the closer he can get to this oriental magic the greater will be his value.

As an organiser he will not only require to be aware of the various aspects of his work to which the contributors to this book make mention. He will not be left to organise his department along the lines so ably signposted by Mr. H. A. Goddard, and nothing more. He will be expected to be aware of and concerned in every one of the works organisations—sports clubs, libraries, "Fur and Feather" shows, works outings, to quote a few—this

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spring up wherever groups of men and women work. He will be expected to know if the Town Hall can be booked for a dance, to whom to apply for schedules for a Homing Pigeon race, to know the local printer who can get out the posters (and the shop for paper hats!) for the Old Folks' party and a hundred other details which he will, if wise, put into a card index as soon as he gets going.

But—and this is most important—he will in all these activities, as in so much of his work, content himself with a backroom position. He will inspire others to take the lead, to do “the organising” and to create something for themselves. He will, if asked, be a valued member of many committees, but he will put a black mark against those of which he is the secretary and count as good as moribund those of which he is the reluctant chairman. It is one of his privileges to teach people to think and act for themselves, and by his success in this direction his whole career may be judged. In this attitude he will be quite wise, and for two cogent reasons: in the first place, a much better spirit—rows and all allowed for—will prevail when men can run their own show in their own way. They may require an initial push; they may even need to have the idea put up to them, but they are far more likely to make the club or other organisation a living part of the factory's life if they get the idea they did it all themselves. The other reason is that handing every single welfare facility on a plate—“feather-bedding” is the expressive term that has become recognised in America—plays straight into the hands not only of the lazy but of the suspicious as well. “They must be making a packet if ‘they’ (synonym for management almost everywhere) can afford to give us this.” “Why not put a bit more in the wage packet instead of fussing us up with musical evenings and things we never asked for?” This is a highly dangerous mood, for it can undo, almost in a night, the results of much patient welfare work.

Finally, the Welfare Officer must keep an eager and enquiring mind. He must, sleeping or waking, have a care for every possible angle of his job, and for some that would be considered impossible. He must, for example, be on the alert to realise and assess the welfare angles of any new material or new process that may be used or developed in his factory. He must be ready to counter possible hazards which may arise from such developments before they happen. He must discuss with the firm's Safety Officer or the Safety Committee the human implications, in terms of possible danger to the men and women for whom he is responsible, of any innovation as soon as its adoption has been sanctioned by higher management. Today one might imagine such a Welfare Officer checking at every available point the possible risks of a new plastic moulding process. He would have to consult the works chemist, the industrial Doctor, the Safety Officers and any other of his subsections who might be affected or who have special knowledge. Armed with their advice he can prepare a plan to mitigate the risks (in this particular case admirably few) which may be expected to arise. Another

officer may find himself called upon to consider the effect of preliminary work on nuclear fission and other details of atomic research at factory level.

One may thus visualise our officer as a particularly benevolent spider sitting in the middle of a web whose fibres reach to every corner of the works and to the workers' world outside. Along them come messages, queries and calls for aid, and along these same channels he is ready at any time and in any way to give thought and skill and energy in the service of his calling.

HOW SHOULD HE RANK?

Having in some measure laid out the pattern of a Welfare Officer who shall do his job with satisfaction to himself and to those among whom he works, we come to the position—the social position as it were—that he ought to occupy in the hierarchy of industry. This is a deep and disputatious problem on which far too much time and energy has been wasted. The point of view of each firm varies according to its circumstances, and there is little profit in attempting to lay down hard-and-fast rules. In the smallest firms the owner, boss or “gaffer” is himself the welfare officer as well as works manager and head buyer—and he often makes as good a job of welfare as any of the others. I have personal recollection of one such employer, whose language could be lurid in the extreme, who didn't believe in fuss and fal-lals, but who knew his men by their Christian names and would always help a lame dog over a genuine stile. I know today three firms, by no means small, where welfare is a definite “family” department with its own director on the board, in two cases in the person of the managing director's wife. In the third case, the welfare director is himself joint managing director with a brother.

But when it comes to paid servants of the company to whom the shareholders through the Board delegate the job of man-management and all that goes with it, there are a number of viewpoints that merit consideration. In 1946 I had the honour to act as chairman of a “Brains Trust” which discussed this same problem as it affects the Personnel Manager, and but for the change in title of the person under consideration the arguments are much the same. They fall into three main classes:

- (i) those which consider welfare in industry of such importance as to merit a regular directorship;
- (ii) those which insist that the Welfare Officer should at least sit equal with the works manager or the departmental chiefs;
- (iii) and those who hold that the job needs no rank to back it up.

Those who would see the Welfare Officer as a director argue that his work is of sufficient importance to justify this status, particularly in a large firm. Here one will find departmental managers whose authority, so far as *its area* is concerned, far outweighs that of the directors of smaller businesses. They are big men with big jobs, and the suggestion is that unless the Welfare

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Officer is of equal calibre they will not give him the attention he deserves. Now this could be serious indeed. The affront to the man is of little comparative importance, but that any welfare work, accepted as essential by "top" management, should be thus stifled or stultified strikes at the root of good labour relations and so at production. Of course, in a large and complex organisation the appointment of yet another expert to come between the line authorities and their men can lead to trouble, but once the firm has laid down a labour policy, it is up to all executives to give that policy a fair run. The argument therefore carries weight.

The alternative status suggestion is that the Welfare Officer in charge of a department is just as much a manager as the works manager or the departmental heads. He therefore should have equal status with them and, on a common level, should be able to come to some *modus vivendi*. From this will result, it is claimed, a realisation of mutual trust and respect amongst all management colleagues to the general advantage of the firm. To strengthen this claim is the view that the man, director or manager, in charge of welfare is the appointee of the Board, responsible in the last instance only to them. It is not right that he should have direct access unless he carries a rank that would normally entitle him to this privilege. Again, since the Welfare Officer (or personnel manager) has responsibilities, he must have authority to back them up. If, for example, he is the channel through which all labour enters or leaves the works, he must be able to say his say before a man is discharged. He has the background knowledge and he should be in a position to use this to the benefit both of the man (for whom also he has responsibility since he "sold" him into taking the job) and of the team. He has the information that can indicate that John Smith should be transferred rather than discharged, and he ought to be able to insist if necessary on such a course being taken even in the teeth of a foreman's displeasure. Here again lies reason.

The third suggestion is that no "status" at all is needed. The man is appointed, builds up a department, and if his "personality" is sufficiently powerful he will become so well known and so well liked that he will be able to do without additional rank or weighting. A variant theme is that he should be held to be on a par with the Works Doctor who is accepted—and obeyed—by all ranks without question. It is possible that somewhere here lies the final solution of the problem, but it is so precariously based that it deserves considerable attention. Briefly, the Welfare Officer is to be accepted on the sole strength of his "personality"—I prefer the word "character"—or on the strength of his character plus certain definite qualifications. These qualifications must have almost equal sanction with, e.g., a priest's Orders, and be unquestionable by anyone with whom he works.

Now the possession of a depth of character sufficient to carry an ignorant man to success is not a common thing. We have rightly quoted those cases where men inspired with human understanding were able to succeed in jobs

to which, frankly, they should never have been appointed on their experience. Equally rightly we must call to mind the appalling misfits which resulted from this hit-or-miss technique. Character alone can do the trick, but it is fair neither to the man himself, nor to those for whom he is made responsible, if his possession of this quality is left to chance. Admittedly it is well-nigh impossible adequately to assess character without a full-scale trial; the job, however, is so vital that we must think before we take so great a risk. The suggestion has been made that all applicants for welfare work should be psychoanalysed; it is doubtful whether there is overall agreement on the value of this particular yardstick.

Character plus qualifications seems to be a safer bet—provided always that you can be satisfied that the latter are suitable. Ideally they should provide the necessary background of “know-how,” and while acquiring them the less able candidates and the least effective from the point of view of character can be weeded out. It is in this way that one gets the average Doctor, trained in the details of his job in any case and in general possessed of a missionary sense that sets him a little apart from the general run. As a student he will have been watched closely and if he showed any traits which might affect him personally in his career, *or the reputation of his profession*, he would be corrected or in the last event prevented from qualifying. Now some such system applied to the training of welfare officers might solve our difficulty as far as the new entry is concerned. It would, however, be improper to expect men who have made good in their profession to submit to examination in this way, though no one I am sure would think the less of them if they responded to an invitation to do so.

But we have not got an outside body equivalent to the British Medical Association or the Institute of Chartered Accountants. We have one or two organisations, each of whom could take part in a joint effort to establish a curriculum that would be acceptable to industry and to potential welfare candidates. The Industrial Welfare Society, the Institute of Personnel Management and the Institute of Welfare could combine with the National Institute of Industrial Psychology and other interested bodies to create a joint board of examiners who would be competent to license both industrial and, if thought desirable, social welfare workers to “practice.” By some such method we could end for ever the problem of status.

As a working compromise it is probably the best way out, and by its means some regard would still be had to those imponderable assets which every successful Welfare Officer should—indeed, must—possess.

ON WHOSE SIDE?

Close behind the problem of the Welfare Officer's status treads the question, sooner or later to be asked of everyone: “Whose side do you think you're on?” Now industrial welfare, which may be said to have begun

from the hobby or whim—or the conception of Christian duty—of one or two individual employers, has grown through a stage of major management policy and today is changing once again. In its earlier phases it was the boss's job, and in the bedevilled set-up which has spoilt industrial relations for near a hundred years, this was enough to condemn it out of hand in the view of the more "conscious" workpeople. Whatever was done to make factory work more pleasant, more intelligent and more safe was sure to arouse the suspicions of labour. At the best it was an attempt to create a factory loyalty which would be harmful to the union ideal; at worst it was a sop thrown by a hard-hearted but slightly apprehensive management to the men they were cheating of their due rights.

Put crudely thus, these suspicions look as silly as they really are, but the fact remains that they and their like persist to this day. And it is the fact that more and more managements have found it necessary to explain to their shareholders that welfare pays!

Now if the Welfare Officer is anything approaching what we have endeavoured to portray, he will be on no one's side at all. He will hold the middle path and do his duty in the light of his experience. He will be beset by hotheads on either side who will try to cajole or bully him into unfair decisions, but he will stand firm. The fact remains, however, that not only is he the chosen instrument of his management's policy, but he is also in their pay. How can he then be unbiased?

It may be that the tide of democratic development will find an answer for us here. The national conscience is on the move again. All sorts of social welfare is to be, or actually is being, undertaken by the State in the name of each one of us. Industrial welfare is a first priority of national recovery and it seems feasible that its application can no longer be at the choice of the individual firm. All firms in an industry will be expected to provide certain basic welfare facilities, and for those too small to comply, some combined service must be evolved. The Welfare Officers of such a "combine" cannot be said to be in the pocket of any one management.

Can we not take the thing a stage farther? Could not the payment of all qualified Welfare Officers be taken out of the hands of firms and even of industries? Could there not be a national industrial welfare service? This is a big step, and it cuts right across those who insist that the Welfare Officer should be trained and brought up on the spot. It will rouse the fears of those who see already far too high a proportion of our labour force employed as Civil Servants. In fact, such a plan need not unduly alarm either group.

Given an adequate and accepted training scheme, the supply of new entrants will be of good calibre, quite as good as can be obtained today with no scheme at all, and will have the practical factory background which is agreed to be essential. (Part of an ideal curriculum would provide for so many months' work on the factory floor.)

If industry could be assured of such a supply of trained welfare workers, neither big firms nor little firms should object to pay into a common pool (organised by the Federation of British Industries or the British Employers' Confederation) exactly such sum as they would pay an individually hired Welfare Officer. Similarly, the Trade Unions could be with reason expected to contribute a sum equal to that subscribed by management to the pool in order to ensure an equal say in training and appointment. From this financial pool, wages and superannuation could be paid to Welfare Officers accepted by the Conjoint Committee which should, I would add, be strengthened by the inclusion of labour representatives. Labour has already, it should be recalled, some experience in large-scale industrial welfare planning, and the Miners' Welfare Commission could give a very considerable lead to other Unions.

By this means a real team spirit could be evoked throughout industry, and whatever was agreed would carry the blessing of both "sides." The idea, for it is nothing more, is given here as a constructive suggestion for open consideration.

It has been pointed out to me that "visiting" Welfare Officers appointed in some such way as this could not be held to have authority over personnel, and this is true since it would manifestly be impossible for officers to hold any position in the direct line of management of firms who only paid them indirectly and, possibly, only had part use of their services. These officers would have authority to do things for workpeople within the lines laid down by each individual management; they would have no more authority *over* employees than the works Doctor.

It is here perhaps that the division between personnel management and the functions of the Welfare Officer, at present somewhat vaguely defined, would become obvious. It is indeed the view of many students of industrial relations that this division of functions is necessary if Welfare Officers are to take their proper place in modern industrial production.

But while I am not completely convinced that this is the right or the only method of putting welfare into industry, I am entirely satisfied on another point. This is, that whatever plan be evolved, by whatever committee or association, it is doomed to failure unless it is inspired by the proper spirit. The realisation that we all—Management, Workers and Welfare Officers—are members one of another must be implicit in any such organisation. Sir Stafford Cripps has put this into words which I cannot hope to better:

"It is a condition of our success that we should acknowledge unreservedly the common human factors that bind us together as a nation. It is the recognition of this factor which will enable us to weld our whole nation into a living team, inspired by a spirit of high endeavour and enduring courage.

"I wish that today our country could refresh its heart and mind with a deep draught of that Christian faith which has come down to us over 2,000 years and has over those centuries inspired the peoples of Europe to fresh efforts and new hopes.

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"It is that spirit, and not our own material hopes and difficulties, that can be the most potent source of our inspiration, call it by what name you will, self-sacrifice, honour, love, or comradeship; it is the strongest power in our lives, and at this moment of deep difficulty in our history we need its supporting strength as never before."

If, then, the need for such a spirit and outlook be necessary to each one of us as citizens, how much greater must be its value to those on whom rests the responsibility for lubricating the wheels of human engineering! Theirs is the duty in all circumstances and at all times to put first things first and to think beyond their immediate problems towards the realisation of a national industrial ideal. We have got to have men who can think along these lines, who are convinced above all else that mankind is worth both serving and saving. We have got to have men who like St. Francis are prepared to undergo all hardship for a cause which they feel is worth while. We have got to have men who can show the single-minded devotion to a cause of the soldiers and peasants of Russia during the black years of the war. We have got to have men with fire in their bellies.

CIVIL DEFENCE

If this country finds it again necessary to assume the posture of defence, the duties and responsibilities of the Welfare Officer will be considerably enlarged. The new Civil Defence Act not only empowers "the Minister" designated for the work to set up local C.D. organisations and a cadre of instructors—in the first place largely made up of police, firemen and local authorities' employees. It authorises the re-enforcement of "any provisions of the Civil Defence Acts 1937 and 1939 . . . relating to factories, mines, commercial buildings or public utility undertakings . . ." or may vary such provisions in the light of altered circumstances. The 1939 Act in particular authorised the construction of factory shelters and laid down how they were to be built. It put the onus on the factory Occupier to report, by a given date, what provision had been made, and authorised the service of notices to carry out such work on Occupier or Landlord by the appropriate authority. Heavy penalties could be imposed for non-compliance. Under Section 23 of the same Act, all firms with over thirty employees were ordered to report, to factory or mines inspector or to the local authority concerned, what steps had been taken to train employees in A.R.P. and in firefighting. Here also there were penalties for neglect.

It seems obvious that, should these powers have to be reassumed, the industrial Welfare Officer will, at the onset at any rate, have to accept an increased responsibility. In consultation with the Safety Officer and the Works Safety Committee he can give very valuable help, and he should therefore make it his business to keep abreast of whatever Orders are promulgated under the new legislation.

PLAN FOR A WELFARE DEPARTMENT

By H. A. Goddard

ONE of the good things which has arisen out of the recent war is the fact that many of the welfare amenities which used to be regarded as the prerogative of the large and wealthy firm have now become an accepted part of good industrial organisation. No longer are welfare departments looked upon as a rather pleasant way of absorbing surplus profits, and it is now generally conceded that they have a positive contribution to make to the efficiency of the business.

It is important that this concept of the welfare function should be realised and accepted by both management and workers, otherwise there is the danger that a paternalistic atmosphere may pervade and the entire activities become suspect so far as the workers are concerned. Only when it is established that the Welfare Department has a direct relationship with the business in the same way as, say, the Publicity, Advertising or Accounting Departments will it be taken seriously and expected to earn its keep. For that is the acid test of all departments—they must be judged by the contributions they make to the effective working of the business. The question is not “Can we afford a Welfare Department?” but “Can we afford to be without one?” and to answer that question properly it is first necessary that the cost of running such a department be fully investigated.

There are, of course, many factors to be borne in mind in endeavouring to arrive at a cost, and the first of these is the size of the undertaking. Just how big should a factory be before it finds it necessary to employ a specialist department to cover the amenities and services available to its workpeople?

The answer depends entirely on the special circumstances of each case, and it would be impossible to lay down an arbitrary figure. There is, however, an excellent guide in The Factories (Medical and Welfare Services) Order 1940. This Order gave the Factory Inspector power to direct the occupier of any factory employing 250 or more persons and engaged on work on behalf of the Crown to appoint specialist staff for health and welfare supervision.

From this it can be assumed that, in the eyes of the State, once a factory reaches a size where it employs 250 people the appointment of a specialist is necessary. This does not, of course, mean that the welfare function is entirely absent in factories employing less than 250 people. The requirements of the Factories Acts and other statutory provisions relating to working conditions have to be satisfied, and the onus is on the chief executive or owner of the business to see that this is done.

When, however, the numbers employed become so great that it is impossible for the chief executive to maintain an adequate supervision, then the time is ripe for a Welfare Officer to be appointed. This official may have prescribed duties, or he may be given a free hand subject only to the authority of the chief executive. In actual practice it is becoming increasingly common to centralise all activities which relate to the personnel of a factory, and such duties as recruitment of labour, training and education, health, safety and welfare are invariably delegated to a central department, which department naturally increases in size with the size of the firm.

It is also quite impossible to provide precise figures of "cost," since each factory has its individual problems, which vary considerably in relation to such factors as its geographical situation or the processes involved in manufacture. For instance, a factory situated in a rural area may find it necessary to employ special transport for its workers and make much more elaborate canteen arrangements than the factory in the big town whose workers nearly all live within easy walking distance. The argument may be advanced that such costs as transport and feeding in the instance quoted would have to be met even if the factory had no Welfare Department, and it is quite true to say that there are a number of "welfare" costs which at the moment are swallowed up in the general costs of management.

That does not, however, alter the fact that if a Welfare Department is in existence, then all such costs should properly be charged against it, as it is only by this method that any accurate correlation can be made between costs and range of activities covered.

Far too little statistical information is available at the present moment, and it is hoped that all firms will make an effort to keep accurate costs in order that a basis of comparison can be established. The Industrial Welfare Society is conducting a survey on the costing of personnel departments, and when that survey is completed and the results published it may be possible to lay down a uniform standard, although the Industrial Welfare Society in its pamphlet to employers asking for their co-operation is at pains to say "the complete picture may be misleading without turnover figures, since those companies whose labour costs form a high proportion of production cost — at well seem out of balance when compared with those whose proportionate labour cost is low."

DEPARTMENTAL COSTS

To attempt to answer the question "What should the department cost?" involves a complete analysis of all the expense items which can properly be charged against the department, and the following particulars have been made as comprehensive as possible in order that specific items can be extracted as they apply to the individual firm.

Salaries.—The first question is one of salaries, and it necessarily follows

that there is a wide range according to the size of the undertaking and the responsibility allocated to the head of the department. Where a group of companies is involved or the unit has a working force of over 3,000, it is usual for the head of the department to be primarily responsible for administration and to act in an advisory capacity regarding the formulation of the personnel policy of the company. In such cases a salary of £1,200 per annum upwards is usual, and in addition there are certain direct expenses, such as travelling allowances (these can assume a large figure if a group of companies is concerned), entertaining expenses and the like. In most cases firms prefer their executives to own their own cars, and reimburse them for expenses incurred in travelling by a mileage allowance based on the horse-power of the car. If train journeys are necessary, then first-class travel is allowed, together with any hotel expenses.

The next grade is that of the Senior Personnel Officer, who is responsible for a working force of from 1,000 to 3,000. This grade also includes the position of deputy or chief assistant to the positions described above, and the salary range is usually £750-£1,000. Here, again, expenses are allowed as before indicated.

Coming to the firm with under 1,000 employees, the position of Personnel or Welfare Officer carries a salary ranging from £500 to £850.

In addition to the above, which may properly be described as senior posts, there are Assistant Personnel and Welfare Officers who may have a general responsibility or be charged with one or more of the recognised functions. Here, salaries range from £300-£600 according to the scope of the appointment.

It should be noted that there is a considerable variation in nomenclature, and such titles as Personnel Manager, Labour Manager and Welfare Manager have no commonly accepted definition. It is therefore unwise to attempt to assess the responsibilities of a particular job by the title, and accordingly the words "Personnel Officer" have been used throughout this section because such a description embraces the functions of all engaged in this type of work.

Staffing Needs.—As regards the actual staffing of the Welfare Department, the following may be a useful guide. If the numbers employed are less than 200, then it is the responsibility of the chief executive of the company to direct the welfare activities. Since he will be the person who is in direct contact with all the employees—and in most cases he has probably engaged them himself—these duties come naturally, and if he makes himself available for the ventilation of grievances and consideration of suggestions, there is every prospect that the relations in such a unit will be extremely good.

It will be an advantage if a clerk can be detailed for part of his time to do such routine work as is necessary, and some person qualified in first aid should also be available.

In the firm employing 200-300 it may be considered necessary to appoint a full-time Welfare Officer, but in most cases the chief executive will still take

full responsibility, with perhaps a little extra clerical assistance. Sometimes it is considered advisable to employ a full-time nurse and, since there will obviously not be enough work for her in that capacity, to delegate certain welfare duties to her. Such records as are necessary will probably be kept by the Wages Clerk.

It is when we reach a pay-roll of 300-500 that it is really justifiable to appoint a full-time officer to look after welfare. It is assumed that in a firm of this size the chief executive will have so many other duties that he will literally not be able to spare the time to see to the personnel side. A capable secretary-assistant is invaluable at this stage, and clerical assistance in proportion to the duties which are allocated. The appointment of a full-time nurse is also necessary at this stage, and although it is questionable whether she would have enough to do, there are always extraneous jobs which can be absorbed by such a person, especially if there are a number of women employed.

From 500-1,000 employees sees a necessity for a Welfare Officer and an assistant—the sex of the assistant depending largely on the proportion of women employees. A capable secretary and records clerk are also required, and at this stage it is desirable to explore the possibility of a part-time Medical Service. That would mean a resident nurse, and possibly an assistant, with the Medical Officer visiting the factory on stated days.

For the firm of over 1,000 employees, much depends on the nature of the work and the policy of the company. The head of the department should have managerial status, and he will probably need two or three qualified assistants, one of whom will probably be responsible for the engagement of labour, while the others carry out the specialised functions relating to employee services. The clerical and secretarial staff will be in proportion, and there may be a full-time Medical Officer with his own staff of nurses and ancillary workers.

In this sense it is interesting to note that in the larger units there are many jobs in addition to the Medical Officer which require specialists, and when these are employed it is always wise to see that their relationship to the personnel manager is clearly defined. Examples are education and training officers and safety officers, and it is usual for the personnel officer to act in a "functional capacity" in such instances. By that is meant that he has no direct control over the activities of such officers, but since their work impinges on his he has a functional responsibility to see that the company's personnel policy is correctly carried out.

Finally, there is the group of companies with a centralised Personnel Department which may be in the charge of a director of the firm. Many big organisations, recognising the vital importance of the human side of their business, have appointed Personnel Directors, and these officials are charged with the important duty of interpreting the personnel policy of the company throughout its ramifications.

"Overheads."—After salaries comes the question of overhead ses, and the department should be charged with its proper allocation such expense items as lighting, heating, depreciation of furniture and equipment, stationery supplies, including record cards and forms which can and do run into a very large sum, postages, and telephone expenses, together with the cost of journals, periodicals, etc., which it is considered necessary to have.

Under the heading of "Health, Welfare and Safety," the expenses to be met include the remuneration of a full- or part-time Medical Officer, nurses and first-aid staff, Safety Officer's salary if one is specifically employed, together with medical and safety equipment and supplies.

In a number of factories provision is already made for Education and Training, and it seems reasonable to suppose that the application of the 1944 Education Act will impose further expenses upon employers. Whether the Education and Training Department is run as a part of the Welfare Department is immaterial; it is an employee service and as such its cost should properly be charged to the department responsible for personnel. Included in such costs are the salaries of education officers, instructors and trainers, fees paid to visiting lecturers and on behalf of employees sent outside the firm for training, the requisite furniture, equipment (which may include films) and books. The total cost of this service depends entirely on the policy of the firm. It may decide to spend very little but, on the other hand, if the job is going to be done properly it is going to cost a great deal of money, and it is hoped that employers will realise that money spent on their employees in this manner is money invested and will pay a handsome dividend in the shape of more efficient workers.

Finally, on the question of costs there is the section which deals with "General Welfare Services," and there is really no end to the items which could be included under this heading.

There is no doubt that a well-run house magazine can be a great help in promoting good relations, and wherever possible one should be instituted. There are many such publications, ranging from the humble wall newspaper to the illustrated monthly magazine, and the first essential is to decide just what type of publication is going to appeal to the employees most.

If it is to be an ambitious affair, then professional assistance so far as layout and printing is concerned will have to be sought and it may quite likely need a full-time Editor. Employees should be encouraged to contribute articles, sketches and original work, for all of which payment should be made.

There is often a conflict of opinion as to whether a charge should be made for a house magazine, and sound arguments can be put forward both for and against. A well-known firm bears the entire cost of production of their magazine, but employees are charged 1d. per copy, the proceeds of the sales going to the credit of the Works Benevolent Fund. They believe that the magazine which is distributed free of charge is not appreciated so much by

the recipients as is one for which a payment is made. The production in question is a twenty-four-page illustrated one and is produced monthly. Its cost to the company is approximately £3,000 per annum.

Another employee amenity which invariably needs subsidising in some form or another is the works canteen. Most works canteens are usually run on a basis of operating costs, and the general overheads are borne by the company. In addition, many companies provide tea or other refreshment free of charge during rest breaks, and it is also becoming a general practice for juvenile meals to be charged at a reduced rate. As an example of what this latter service can cost, in the company previously mentioned over a period of 12 months, 14,484 juvenile meals were served, and the cost amounted to £371 17s. 6d.

Social and Recreational facilities must also be encouraged, and although these are usually run on a contributory basis, the company is always expected to make contributions either in cash or by the provision of some service. I am not now referring to the initial expenditure of laying out a sports ground or building a social club. This is purely capital expenditure and must, of course, be provided by the firm, but even the best of clubs find difficulty in making ends meet without some help from the company. The same remarks apply to sick benefit clubs and benevolent funds, of which there are a great variety. Most of the sick benefit clubs do, in fact, manage to pay their way with the company providing the necessary clerical labour, but cases are always arising which do not come under the rules of the club—the employee whose sickness has been of such long duration that benefit has ceased, and the provision of surgical appliances or artificial limbs, are examples which come readily to mind.

Some firms do, in fact, pay sickness benefit up to an agreed number of weeks, usually dependent on length of service, without any contribution at all from the employee, and this can easily amount to a very large sum in the course of a year. Special grants for convalescence or rest-homes are also expenses which occur.

Now that holidays with pay are practically universal it becomes necessary to differentiate between the payments which are made under statutory or agreement requirements and those which are in excess. The former are properly chargeable to the Wages Account, but the latter are the concern of the Welfare Department and should be allocated accordingly. Pension schemes and long-service awards or gratuities are also costs which must be taken into account, and if any scheme is in existence which provides assistance to employees whilst they are serving in the Forces, that, too, is a proper charge.

Finally, full account should be taken of expenses which are concerned with research into personnel relations. This is a sphere of activity which has not been greatly developed as yet, but many employers have realised that it is just as necessary to apply research methods to the human factor in business as it is to, say, engineering development.

Cost Analysis.—The above are all examples of expense items which are directly concerned with the personnel activities of the factory. Valuable statistical information can be obtained by listing all the items which are applicable and placing against each individual item the cost. That cost should then be expressed in three distinct ways. First, as a percentage of the total wage bill; secondly, as a percentage of turnover; and, thirdly, worked out as a cost per head per annum. The individual items can then be added up and the totals expressed in the same way. By this means many items which have hitherto been lost in the general costs of management can be put in their proper perspective and the total costs of personnel services be much more accurately compiled.

OFFICE ACCOMMODATION

The next question to be considered is that of housing the activities which have been described, and in this connection readers are recommended to obtain from the Industrial Welfare Society their booklet entitled *Points for Planners*. This contains a wealth of useful information for those who wish to plan a special department for welfare activities.

If a Welfare Department is to be efficient, it follows that adequate office accommodation must be provided, and in this respect it should be noted that there are certain essentials which must be considered when planning a layout. Amongst the foremost of these is easy access from the factory itself and from the outside world. It is assumed that the Welfare and Personnel services go hand in hand, and therefore the site should be planned so that intending applicants for employment have no difficulty in finding it and do not have to wander all over the factory. If the factory is a large one, a position at the entrance may not always meet the case and it may be necessary to have a subsidiary office at the factory gate for interviewing purposes, with the main Welfare Department in a convenient central spot. The great thing is to see that employees are not discouraged by reason of its inaccessibility from consulting the Welfare Department, and the first consideration must be to see that the location of the department is known to all employees from the time of engagement.

In most cases, the induction of the new employee is carried out in its initial stages in the Welfare Department, and if that induction is carried out properly the employee will have already learnt to feel at home and will not be at all shy of returning to what was his first point of contact with his job.

Many firms insist that the Welfare and Personnel Department should be situated near to the Wages Department so that employee records can be common to both departments, but in practice, unless the Wages Department is in close contact with the works, it is much better for the Welfare Department to be placed in a readily accessible position, even if it means keeping duplicate records.

The same remarks apply to the contact which the department has with the principal executives and general offices, and while it is an advantage to be in close contact with these functions it must not be forgotten that the primary job of the Welfare Department is with the human beings employed in the factory. A Welfare Department which is remote from the personnel of the factory will never be able to do its job properly. If there is a Medical Department or works surgery, it is advantageous for it to be near to the Welfare Department, since the closest co-operation is essential between these departments. Before designing offices to accommodate the welfare function, great care and forethought are necessary, and the scope of the department should be carefully considered so that possible extensions and development can be incorporated. The writer has had the opportunity of visiting a large number of Welfare Departments in this country, and although most of them have been carefully planned, without exception the comment has been made that insufficient room has been left for development.

The functions which have to be considered when planning are as follows :

- (a) Recruitment and selection of new employees.
- (b) Records.
- (c) Employee amenities.
- (d) Joint consultative facilities.

In connection with (a) it cannot be too strongly stressed that the first impression may have a vital bearing on the attitude of the new employee, and a bright and cheerful waiting-room is the first requisite. This room should be well furnished with pictures, magazines and newspapers, to occupy the applicant's time while waiting to be interviewed. Incidentally, the selection of a commissionaire or reception clerk is of prime importance, since that official is usually the first human contact the would-be employee makes, and the company may well be judged by the initial impression he creates. A separate room or rooms should always be used for interviews, and where selection tests are used, the utmost privacy and consideration are desirable. The engagement of a new employee is an important event and it should be treated with dignity.

The next point to be considered is that of records. It should go without saying that all records are highly confidential and should be housed in such a manner that they are easy of access yet properly protected against fire. All the well-known office-equipment manufacturers have excellently designed cabinets giving the maximum amount of fire protection combined with operating efficiency. One small point which may be mentioned is that these records should be housed on the ground floor so that they can be easily and speedily removed in case of fire.

The importance of training and education is freely admitted, and the implications of the new Education Act must be considered in any planning for future development. Accommodation should certainly be provided for class-room instruction, and it is also a great advantage if facilities for

ilm displays can be pr
it is a common failing in
most Welfare Department
plans that sufficient space is
not allowed for this function,
and as it is likely to assume
much greater significance in
the future too much em-
phasis cannot be placed on
its importance. It need not
be thought that space set aside
in this manner will only
occasionally be used. Ex-
perience has shown that there
is always a demand for a
room—it may be for confer-
ence or instructional pur-
poses, it may be for handling
one of those extraneous jobs
which come to all Welfare
Officers, such as the issue of
clothing coupons—but if ac-
commodation is not available
then the work is held up.

Employee amenities must
also be taken into account
and suitable office space and
equipment provided for sick
clubs, social and athletic
clubs, hospital and savings
schemes, and all the other
facilities which are part and
parcel of employee service.
The nature and demands of
this particular feature are so
varied that it is impossible to
lay down any hard-and-fast
rules, but it will facilitate the
smooth running of all these
things if their administration
can be centred in the Wel-
fare Department.

The same remark applies
to the question of joint

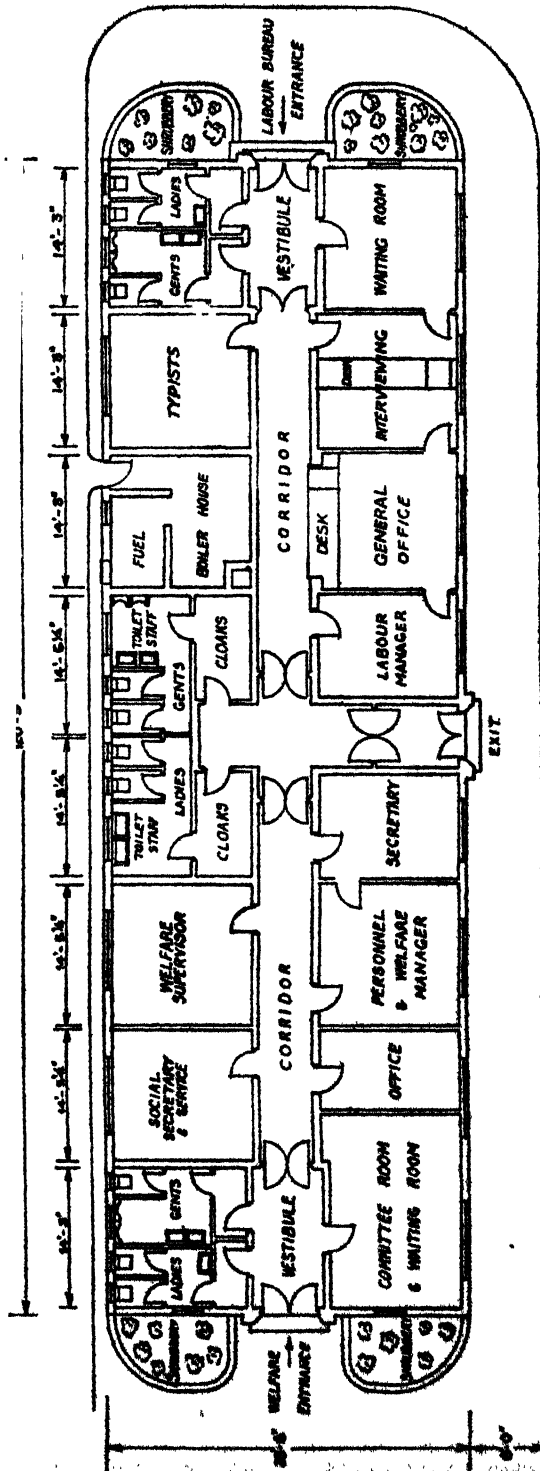


FIG. 1.—Layout for Combined Personnel and Welfare Block.

Consultation. It is important that there should be a "home" for this, and a properly appointed conference or council chamber adds dignity to the proceedings. In all aspects of joint consultation "atmosphere" plays a very big part, and it is good policy to have a room set aside for this work.

The plan reproduced (Fig. 1) gives a typical layout for a Personnel and Welfare Department, but even in this case it was found less than twelve months after it was built that increased accommodation was necessary. The introduction of a works magazine and a library was proposed, and to the great regret of all concerned it was not found possible to house these purely welfare features in their proper place. It is therefore urged again that anyone planning a new layout should leave room for additions and expansion.

The question of Medical Services and their relationship to the Welfare Department is one which has been given careful thought, and one word of warning is necessary. While it is true that the two departments should work in the closest liaison, there is no reason at all why they should be in absolute proximity. The Medical Department has certain special considerations which are of prime importance. Firstly, it should be situated so that there is easy access from the public road, as cases may often be required to be transferred to ambulances. Secondly, it should not be at the extreme end of the factory, as in the case of a bad accident valuable time would be lost in getting the patient to the surgery. Another point which should be obvious is that it should be on the ground floor. Therefore, although it is desirable that the Welfare and Medical Departments should be together, it is not by any means essential, and in the process of planning, first consideration must be given to the points enumerated.

In general, it is suggested that all buildings should be as attractively designed as possible, with flower gardens or shrubs at the entrance so as to present a pleasing picture to the would-be employee. In no field is there so much room for development as in the design and layout of factory premises, and it cannot be too strongly emphasised that it is possible to combine beauty with efficiency at little or no extra cost.

OFFICE RECORDS

The question of records is one which requires careful consideration. Wherever possible they should be centralised in one department, i.e. the Personnel Office. In brief, records can be divided into three headings. They are:

1. Employment.
2. Welfare.
3. Medical.

With the first category we are not particularly concerned, as the information contained thereon is intended mainly for purposes of recording the individual's engagement, rates of pay, subsequent transfers and general

history. A typical form of record (Figs. 2 and 3, Front and Reverse) is here produced, and it will be seen that the information contained thereon is of a most comprehensive nature. It will be noted that no information is recorded on this card as to the individual's physical condition. This is purely a medical matter and in no circumstances should medical information be given on an ordinary employment record card.

The Medical Officer will, of course, satisfy himself that each employee is physically capable of performing the duties allotted to him, and in the course of his medical examination he will note on his own record cards all the information which he has acquired. This may be far more than is required for the particular job and may possibly reveal facts which are not even known to the individual. It is therefore most necessary that the medical records be kept separate. There are many good reasons why this should be so, the chief of which is that they will be put to so many and varied uses.

Basic Index.—The first record which every Welfare Department should have is a simple card index containing the name, address, clock number, department and age of every individual employed. The information necessary to compile this record comes from the Personnel Office, and as each new engagement is made, a card is created for the Welfare Department. The same procedure applies to termination of employment, as it is most necessary that this record be absolutely up to date. There should be sufficient room left on the card for extra information to be recorded, and it is surprising how valuable this record becomes after a time.

Such information as mode of transport to and from the factory, issue of clothing coupons, juvenile tickets and much other useful data can be acquired. In addition, it will be found that this record is most useful in compiling the unusual statistics which are always required in such a hurry. The Managing Director wants to know how many people live more than five miles away from the factory, or how many married women are employed, and it is a comparatively simple matter to run through the cards and extract the required information. The value of this record is that, as it contains no confidential information at all, e.g. rates of pay or medical details, it can be used by everyone in the department, and a junior clerk can be given a specific job to do involving its use with the knowledge that there will be no breach of confidence.

Confidential File.—A very different matter is the Welfare Officer's own personal file of "case" histories. These should always be kept under lock and key, since the information contained therein is usually of a personal or domestic nature. Here it is suggested that the Welfare Officer should keep a record of all those people who consult him, and that record should contain a brief précis of the circumstances disclosed and particulars of the advice given or action taken. It is a matter which often exercises the mind of a Welfare Officer as to whether he is justified in making a record of what is told to him in confidence. He often feels that having dealt with the problem it is better

PLAN FOR A WELFARE DEPARTMENT

NAME AND ADDRESS OF LAST THREE EMPLOYERS				OCCUPATION OR TRADE	PERIOD	REASON FOR LEAVING	RATE OF PAY
1.							
2.							
3.							
<div> <div>NAME AND ADDRESS</div> <div>WOODROW</div> </div>				AGES OF CHILDREN		SOCIAL SECURITY CARD No.	
NATIONAL REGISTRATION IDENTITY No.				UNEMPLOYMENT BOOK No.		HEALTH INSURANCE CARD No.	
BIRTHPLACE				NATIONALITY			
ADDRESSES							
<div> <div>FOLD</div> <div>FOLD</div> </div>							
ACCIDENTS							
DATE	NATURE OF ACCIDENT	PERIOD OF ABSENCE	No. OF W.C.A.	REMARKS			
CHARACTER AND NATURE OF ANY PHYSICAL, MENTAL AND MORAL DEFECTS							
SCHOOLS ATTENDED		AGE AT LEAVING					
TECHNICAL QUALIFICATIONS OR DEGREES OBTAINED							
TRADE UNION OR ASSOCIATION							
DATE OF ENLISTMENT IN U.S. FORCES OR CIVIL SERVICE		DATE OF DISCHARGE		UNIT OF U.S. FORCES OR BRANCH OF CIVIL SERVICE			
TRADE OR OCCUPATION IN U.S. FORCES		REASON FOR DISCHARGE. IF DUE TO INJURY OR SICKNESS, STATE NATURE OR CHARACTER OF SUCH INJURY OR SICKNESS					
NAME OF EMPLOYER BEFORE JOINING U.S. FORCES							
NAME OF EMPLOYER AFTER DISCHARGE FROM U.S. FORCES							

FIG. 2. A Typical Form of Record (Front).

47

FOLD

FIG. 3. A Typical Form of Record (Reverse).

for there to be no record and the whole circumstances forgotten as quickly as possible.

In my opinion it is much better to keep a record, provided steps are taken to see that it is not accessible. Human problems have a way of repeating themselves, and the recording of these cases forms a valuable human record which proves most useful when problems of a like nature are propounded.

Again, it helps very much to inspire confidence in the individual. A man may visit you twice with an interval of six months between the visits. You have probably seen hundreds of people during that time and might quite conceivably have forgotten all about him, but he expects you to resume the interview where you left it off six months ago, and if you cannot do that he feels that he is not getting the attention he deserves. The really wise Welfare Officer gives the impression to each caller that his problem is the one thing which really matters, and unless he has an adequate record or case history he will find this very difficult.

Disabled Persons' Records.—Another record which should be kept in the Welfare Department is the Disabled Persons' Register. Under the provisions of the Disabled Persons Employment Act 1944, employers have a duty to keep a list of all registered disabled persons in their employ, and it is suggested that by its very nature this is a record which should be the immediate concern of the Welfare Officer. A suggested card-index record is shown (Fig. 4), and the Welfare Officer should see that each person on that list is visited on the job from time to time.

DISABLED PERSONS' REGISTER

26/112 (45075)

DEPARTMENT	CAUSE OF DISABILITY	1914/1918 War
DATE OF BIRTH		1939/1945 War
DATE OF ENGAGEMENT		Civilian Accident
DATE OF REGISTRATION		Congenital Disease
RENEWAL DATE OF REGISTRATION	CATEGORY	Strike out what not applicable
REGISTRATION NUMBER		Registered Disabled Person R.D.P.
NATURE OF DISABILITY		Reinstated Person R.E.
		A Person employed under permit P
		A Person working less than 10 hours O.
	A Person working 10/30 hours H.	
		A Person working in a Designated Employment D.E.
		The figure of the Special Percentage against the name of any Person to whose employment it applies }

FIG. 4.

Medical Reports.—The recording of medical certificates is a job which is usually undertaken by the Welfare Department, and in a large factory it is advisable that there should be a central department charged with the responsibility of dealing with these certificates. It should be laid down in the Works Rules, and emphasised, that ALL medical certificates should be sent to the Welfare Department and they must be clearly marked with the name, clock number and department of the individual. Despite this precaution certificates will arrive by all sorts of circuitous routes, often containing the sketchiest information. A harassed G.P. writes on a leaf of his notebook that Mr. Jones is suffering from a severe chill. There may be twenty Joneses working in the factory, and that is where the original alphabetical card-index record is so useful. Having ascertained which Jones it is, the next step is to see that all the people who should be notified are told. To do this an advice pad, which may be in triplicate if required, is used and the particulars on the medical certificate are copied and transmitted, one copy to the man's foreman, one to the Wages Department and one to the Sick Club. The original medical certificate is then passed to the clerk who deals with the recording of sickness absence, the exact method of which will be explained later, and is subsequently filed for record purposes. In many cases employees ask for the sickness certificate to be returned to them in order that they may use it for production to a Friendly Society. In these circumstances a further copy is made for filing purposes.

Absenteeism.—The question of recording sickness absence leads us naturally to the discussion of all forms of absenteeism and lateness, and this is a matter which has caused a headache to many managements. Nevertheless, if it is tackled scientifically there is no reason why it should not be kept within reasonable bounds. If a worker absents himself from his work or is consistently late in arriving, there must be a reason, and it is the Welfare Officer's job to find out that reason and remove the cause. The institution of a series of fines or other penalties is not in any sense a deterrent—in fact, in most cases it merely provokes a feeling of irritation in the factory as a whole and sometimes more harm than good will result.

It is now freely recognised that punishment is not an effective method of combating crime, and more and more attention is being paid to the establishment of psychiatric treatment in an endeavour to prevent rather than punish. In the same way, such misdemeanours as absenteeism or persistent lateness should be treated with a view to removing the cause rather than punishing the offence.

The first duty to be carried out is to record and analyse the sickness absence in the factory, and in this respect much valuable information can be obtained from the Industrial Health Research Board Report No. 85: *The Recording of Sickness Absence in Industry* (H.M. Stationery Office. Price 4d. net). This report not only describes the method of recording sickness absence but lays down classifications of causes of certified sickness. These are divided into seven groups, as follows:

PLAN FOR A WELFARE DEPARTMENT

1. Influenza and Cold.
2. Diseases of Respiratory System.
3. Diseases of Digestive System.
4. The Rheumatism Group.
5. Functional Nervous Disorders.
6. Accidents at Work.
7. Unclassified Conditions.

and in addition an alphabetical list of diseases with their appropriate classification is given.

The usual method adopted is for the foreman of each department to render to the Personnel or Welfare Department a daily report of lateness and absenteeism (Fig. 5). This he compiles from the clock cards of the individuals

ABSENTEEISM								NO
DEPT	DATE							
CLOCK NO.	NAME	M	T	W	T	F	S	REASON
				-				

FIG. 5

in his department, marking each entry with the appropriate code letter. A typical code in use is as follows:

C=Certified Sickness.

L=Leave or Holidays.

B=Domestic trouble, bad travelling conditions, etc.

N=No reason.

U=Uncertified Sickness.

H=Illness at home.

A=Accident.

These forms are sent in daily and are copied on to the individual cards (Figs. 6 and 7, Front and Reverse), there being a separate card for each employee (pink for women, blue for men). It should be noted that the card as printed will last for three years, and thus it provides a valuable "at a glance" record when required. The nature of the illness as shown by the medical certificate is printed across the absence space.

At the end of each month an analysis is made of all the certified sickness according to the classifications already stated and a return made to the

responsible officials of the factory. This return calls attention to any undue incidence of sickness in any one department and is often the means of determining whether particular conditions or methods of work have ill effects on health.

Works Rules usually provide that a medical certificate must be produced for a sickness absence of longer than three days, but there are many absences of less than that period and these must be returned as uncertified sickness. Provided that this figure does not get out of hand, it is not necessary to take any particular action. There will always be the "day off" because the employee is not feeling up to the mark, and if that day off prevents a fortnight's illness then it is well spent.

The next code letter "L," meaning leave or holidays, is self-explanatory, but when we came to "H" and "B," illness at home, domestic trouble, etc., these are factors which the Welfare Officer must investigate forthwith and wherever possible give help and assistance in meeting the temporary emergency. The classification "A" also speaks for itself and the Safety Officer will already have taken what action is necessary, but it still behoves the Welfare Officer to enquire to see if any assistance is necessary. Incidentally, this record card over a period of years is admirable for picking out at a glance the "accident prone" individuals, and here again it may be possible to give them extra care and attention, since experience has shown that most "accident prone" people are emotionally sick and in many cases need psychiatric treatment.

It is, however, with the "N"—no reason—group that most trouble is likely to be encountered. One of the most effective methods of dealing with this category was tried out in many factories during the war by forming a committee (usually a sub-committee of the Joint Works Production Committee) to investigate such cases, with power to summon the offenders to appear before them to state their reasons for being absent. These committees were primarily instituted in factories which were scheduled under the Essential Work Orders.

It will be remembered that the provisions of those Orders forbade the employer to dismiss a worker or the worker to leave his employment without the permission of the National Service Officer. In addition, cases of absenteeism and persistent lateness could be referred to the National Service Officer, who was empowered to give a direction to the worker concerned if he was satisfied that the facts justified such an action. In order to place the correct facts before him it became necessary to hold an investigation at the factory and so these committees were brought into being. The committee usually consisted of two worker representatives and two management representatives, with the Welfare Officer, male or female according to the sex of the offender. Only persistent offenders—that is to say, those who were habitually absent without reason—were summoned, their records were read out to them and they were given an opportunity of explaining their cases.

PLAN FOR A WELFARE DEPARTMENT

ABSENTEEISM—THROUGH ANY CAUSE

		CLOCK NUMBER		M S or W	DATE OF BIRTH	COMMENCED																													
OCCUPATION																																			
ADDRESS																																			
YEAR 1946	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	S	L	SS	Other Causes
JAN																																			
FEB																																			
MAR																																			
APR																																			
MAY																																			
JUNE																																			
JULY																																			
AUG																																			
SEPT																																			
OCT																																			
NOV																																			
DEC																																			
194 TOTAL																																			
JAN																																			
FEB																																			
MAR																																			
APR																																			
MAY																																			
JUNE																																			
JULY																																			
AUG																																			
SEPT																																			
OCT																																			
NOV																																			
DEC																																			
194 TOTAL																																			
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SEPT																																			
OCT																																			
NOV																																			
DEC																																			
194 TOTAL																																			

ANALYSIS OF CERTIFIED SICKNESS SHOWING DAYS LOST PER YEAR IN EACH SICKNESS GROUP		YEAR	I	II	III	IV	V	VI	VII
		194							
		194							
		194							

PLAN FOR A WELFARE DEPARTMENT

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YEAR 194	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Tot. Hrs. Lost	By whom and When
JAN.																																	
FEB.																																	
MAR.																																	
APR.																																	
MAY																																	
JUNE																																	
JULY																																	
AUG.																																	
SEPT.																																	
OCT.																																	
NOV.																																	
DEC.																																	
194	194 TOTAL																																
JAN.																																	
FEB.																																	
MAR.																																	
APR.																																	
MAY																																	
JUNE																																	
JULY																																	
AUG.																																	
SEPT.																																	
OCT.																																	
NOV.																																	
DEC.																																	
194	194 TOTAL																																
JAN.																																	
FEB.																																	
MAR.																																	
APR.																																	
MAY																																	
JUNE																																	
JULY																																	
AUG.																																	
SEPT.																																	
OCT.																																	
NOV.																																	
DEC.																																	
194	194 TOTAL																																

NO REASON
DOMESTIC
TRANSPORT
DIFFICULTY
CYCLE TROUBLE
BUS LATE
MISSED BUS

PERMISSION
WEATHER
CONDITIONS

D
E

NO REASON
DOMESTIC
TRANSPORT
DIFFICULTY
CYCLE TROUBLE
BUS LATE
MISSED BUS

PERMISSION D
WEATHER E
CONDITIONS

Fig. 7.

It was surprising to note that even the toughest individuals, who would not have turned a hair over the biggest telling off from their foreman, became diffident when asked to justify their actions by their fellow-workmates. These committees had no disciplinary powers whatever—that is to say, they could not inflict fines or punish in any way. All they could do was to report the matter to the National Service Officer, a course which incidentally it was seldom necessary to take. The real value lay in the effectiveness of the method. Not only were the real offenders shamed into mending their ways, but many deserving cases, which otherwise might never have come to light, were revealed and the Welfare Officer was able to give advice and assistance.

On paper, the case of the girl who is consistently late each morning may appear very bad, but when it is found that she has an invalid mother and has to get father to work and the younger children ready for school the case takes on a different aspect altogether. It is not suggested that every case of absenteeism or persistent lateness is deserving of sympathy, but it is emphasised that there is a root cause for this failing and when the cause has been discovered then it should not be beyond the bounds of possibility to effect a cure. It is the job of the Welfare Officer to give especial attention to these cases, not from the “policeman” angle, but with a genuine desire to help.

To sum up, it would be correct to say that so far as costs are concerned a Welfare Department can cost as much or as little as desired, but if it is to fulfil its real purpose and provide an efficient service, certain essentials must be observed, and in the foregoing pages an attempt has been made to enumerate the essential features and arrive at an idea of their cost.

It is the easiest thing in the world to spend a lot of money on a Welfare Department, but that in itself will not produce results.

What is needed is a genuine desire on the part of the Management to foster the spirit of co-operative endeavour, and if that sincerity of purpose is behind the Welfare Department, the buildings and equipment are of secondary importance.

SOCIAL AND OTHER "LIAISONS"

By A. T. Carr

THE Norman Conquest happened many years ago, but during that period the word "liaison" must have been heard first within the shores of Britain. Whether it was associated with welfare can be answered only by research into ancient chronicles of time. Nevertheless, it is obvious that Domesday Book never could have been compiled unless a good deal of liaison work had been effected.

The objects of that early survey may have been wholly material with a view to sharing out the properties and hereditaments of the Saxons amongst the faithful followers of William the First, but credit must be given to this early survey, such as Domesday Book is, for from such investigations information becomes available which makes welfare needs apparent. When the needs are understood, action usually follows. So liaison is an old but descriptive word for what follows. It may have disappeared from the ordinary British vocabulary for centuries, but two wars have necessitated the setting up of liaison officers of all kinds to facilitate co-ordination of effort and to establish friendly relations between persons, associations and countries. We have, in fact, a liaison officer in every welfare worker.

Government departments can be isolated unless effective liaison is established, and such remoteness can lead to disastrous administration. So can human relations founder without liaison in personnel and welfare matters.

COMMUNITY PROVISION

In this chapter, the writer aims to point out how industrial welfare of all kinds is tending to become far wider in its concepts than in the past. Instead of internal self-contained schemes, the tendency is for employers to view the neighbourhood in which their works are situated as an area in which they have special responsibilities, and they are tending to make some social provision in conjunction with the local statutory authorities therein. At last, it is being understood that the engineer, the stoker, the sewing-machinist, the core-maker and all such craftsmen need the services of the roundsman and the assistance of the baker, grocer, fruiterer, milkman, draper and the butcher. Up-to-date industrialists, anyhow, nowadays are viewing their particular areas as a neighbourhood, and their concern is extended to all living within such a community. This is a great advance on the past and helps to prevent too insular an approach. It also circumvents the suggestion of too much of that

paternal influence which has been an objection to some industrial welfare in the past.

For those persons who believe in democracy in industry as a principle, but feel that its implementation is too great a risk, it is recommended that they should experiment in this "outside the factory" welfare service, for by so doing an organisation can be built up in which recreational and other services can be run, jointly by employers and workpeople, for the whole neighbourhood. In the management committees of these extraneous organisations experience in the task of consultation and co-operation can be gained both by executives and by employees. It provides a school for growth and for the development of human personality outside the restricted walls of a factory. It provides a "clinic" in which the necessary mental hygiene can be applied to both "lagging" executives and "over-zealous" workmen, by which both can be encouraged to essay new approaches in sharing experiences and management. By such methods, the soil can be made more receptive for joint committee work later on in the factories themselves. All such co-operative efforts are likely to become more fruitful owing to the education received in the joint running of social, educational and recreational facilities for the neighbourhood. More will be said about this later in this chapter.

THE TRADING ESTATE AS MODEL

There are benefits and disabilities in the provision of such Trading Estates as are known to date. In my view, the benefits outweigh the disadvantages, despite the fact that the social balance of an area in which a prosperous Trading Estate functions may tend to be lop-sided. For instance, housing accommodation may lag far behind the provision of factory space, which leads to great unhappiness and is an irritant in the realm of human relationships. In this respect, the Garden City type of authority, responsible both for housing and industrial accommodation, may appear better equipped than the private or government-owned estate has been in the past.

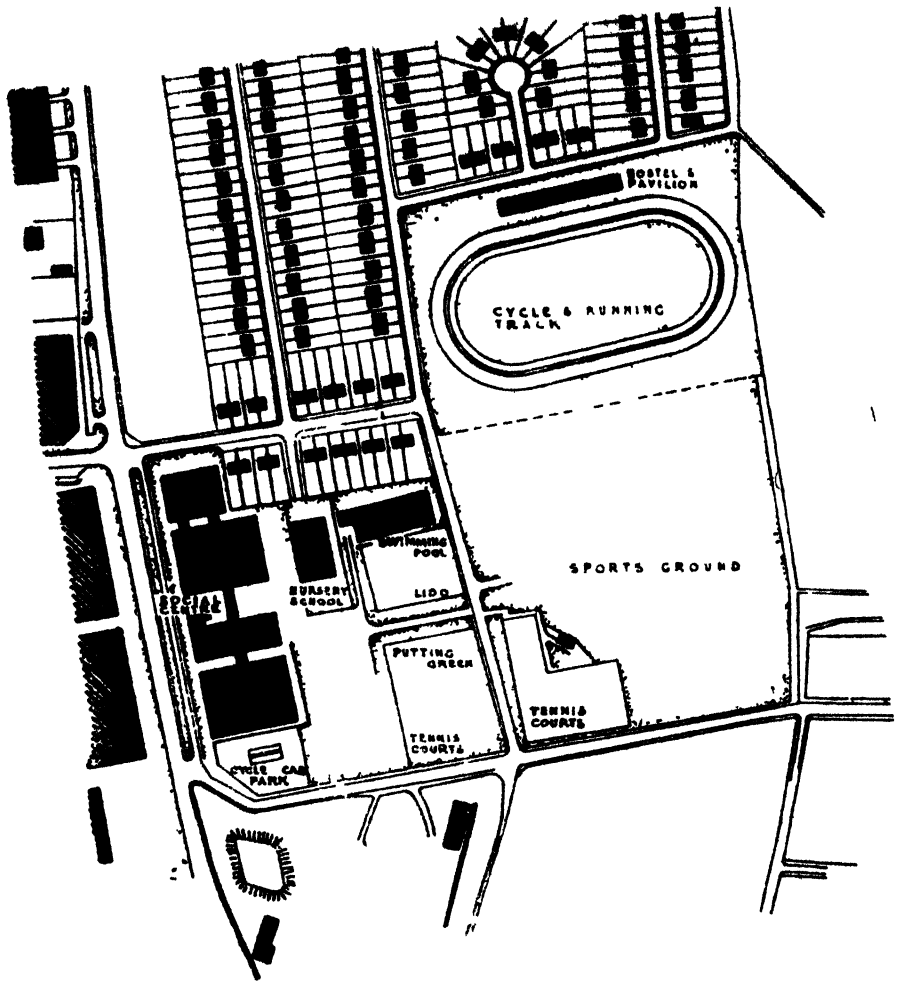
If factory space and all the services such as power, water and transport, together with an adequate number of workers, are available; if the factories can be rented at reasonable cost and are of varying sizes, a small manufacturer can obtain a start. All his capital can be put entirely into a working account, without the heavy financial commitments of building a factory of his own. As his business progresses, the estate owners are usually able to provide additional space. For the workers a Trading Estate presents some better security of employment than can be found in the localised and "one-trade" district, because usually the factories on the estate make many things. In times of slackness for some, it is certain that there will be times of briskness for others. This has the effect of making the labour force mobile without the social objection to the actual transfer of men from town to town. This is recognised as creating hardship for the employed person's family by separa-

tion, of which many people, owing to the war, have experienced more than their share. Until housing provision everywhere is more than adequate, this mobility of labour is bound thus to be restricted. Finally, by the concentration of industry on a Trading Estate it is likely that an attempt will be made to enlist the employers into some corporate body whose aims and objects are to develop a real neighbourhood in which their employees can find a creative purpose and where leisure will be made enjoyable for all classes of working folk.

There are several co-operative welfare organisations in existence more or less based on the principle of providing communal services or service. At Bristol a few firms are acting together to provide recreational activities on a co-operative basis. The initial stages in some cases have emanated from employers, and in others the local Trades Council has been the initiator. The latter method was adopted at St. Albans, where the functions of the organisation are at present restricted to increasing production. This explains the title of this organisation—The St. Albans' Production and Welfare Council. In their title they declare an axiom: "With Welfare there is a greater chance for Production." Scunthorpe in Lincolnshire has its District Safety Council, whose aims are important; it may yet widen its operations and become, too, a Welfare Agency. There are other districts, too, in which similar action has been taken. The largest scheme, however (which has involved an outlay of roughly £100,000), is that at Slough. The bulk of this money was "free" money, provided by industry. Here, an organisation known as the Slough Social Fund commenced its operations in 1936, with objects which make possible the promotion and maintenance of any scheme or schemes by which the health, education, recreation and welfare of local persons can be secured. It would be well to give very full particulars of this experiment, because its success can give a lead to other districts if the wider view of community welfare—of which industry is a part—is accepted as a social advance.

Most new ventures owe their birth to some person or persons of vision and courage, and this was the case at Slough. The chairman of the Slough Trading Estate, Mr. A. Noel Mobbs,¹ visualised the need and became the founder of the fund. He still retains his daily personal interest, both in the mundane affairs of the Trading Estate and of the Social Fund. The Fund, which is a limited liability company (limited by guarantee), has no share capital and pays no dividends excepting those intangible ones of human satisfaction, provided by a piece of welfare work which is used by many and has become a piece of dynamic neighbourliness meaning a great deal to its beneficiaries. At the commencement, a few firms situated in Slough—not all of whom were Estate tenants—joined the Fund. The first task after the need was established was to provide adequate premises for a Social Centre in which both individuals and organisations could operate in social, educational

¹ Now Sir Noel Mobbs, K.C.V.O.



00 0 100 200 300 FEET



FIG. 8 —The Slough Community Centre.

and recreational pursuits. Provision was made for adults and young persons. The premises for both age-groups adjoined, but sufficient insulation was allowed for so that neither age nor youth need clash but yet remained as in a family—close at hand. Halls, a heated swimming-pool, gymnasium, crafts room, canteens, rest rooms, a library and writing-room, together with a series of committee rooms, were made available in which all kinds of activities soon took shape. The Centre has a trained staff, but the amount of voluntary

work that is done within its precincts is most encouraging. A person joining the Club is expected to subscribe to the following:

1. to promote and encourage all forms of recreational activities that will contribute to health and physical well-being.
2. to promote and encourage all forms of social, educational and cultural activities that will advance knowledge and create wider interests.
3. to promote and encourage spiritual values that will further good fellowship and good citizenship, and instil a desire for personal service to the community.

People of every creed and in every walk of life are welcomed as members, and all are expected to help in the achievement of these objects. All the Sections and Societies are self-governing, sending elected representatives to a Members' Council. This body meets monthly and discusses matters of general interest to the whole Community Centre as it is now known. It is the electoral college from which candidates for the Executive Committee are nominated, and its members elect representatives to that management committee. Here, executives from office and factory meet cheek by jowl with operatives, but, in this corporate welfare set-up, they possess a common identity, i.e. Members of the Centre. Their working status could be, and often is, unknown within the Community Centre. This appears to be right psychologically and may be preferable to the individual firm's (sports) association,¹ where often it is found that executives are not happy at serving under elected officials from the shops, nor the latter jubilant if some member of the office staff is elected to a position which he or she would like to have had. The communal activity of the Slough Community Centre gives a real opportunity for all to possess the same status—Membership! If differences of opinion in committees occur, they are discussed free from any works bias and, in this school for democracy, the more intellectually privileged person is able to help in the further development of those less fortunately accomplished.

It is in this sphere of responsible government of leisure-time activities of all kinds that men and women can learn the meaning of joint co-operation and joint action. The ability to make effective use of Joint Production Committees in industry needs, first, the goodwill essential and, secondly, the "know-how." (This assumes that the principle of such control is accepted.) In my view there is much to learn in these matters. Some failures in factories (despite the wish for success), to my knowledge, have been due to the appalling ignorance of the techniques necessary to secure the effective co-operation which is obligatory if democracy in industry is to justify itself. The ignorance referred to above can be found in executive staff, just as much as elsewhere. Perhaps the word "ignorance" may be too harsh. It may be more accurate to say that often it may be very difficult for an executive—possessing special qualities by which he attained his technical and managerial

¹ At Slough, many firms support the Centre and still run their own sports and social activities, some of these within the Centre and some within their own organisation.

SOCIAL AND OTHER "LIAISONS"

position to be big enough to target that continually works in his subconscious mind by whispering that overworked word "status." On a Wayside Pulpit recently I saw the following words: "The wise man never worries about the snubs of the self-important person." This appears profoundly true, but the shortage of men who are wise enough themselves in some measure not to be self-important complicates the issue.

LOCAL LIAISONS

Within a Community Centre such as I have described, it is possible to provide many services which no individual firm normally could afford to provide for its own workers or, if it could afford it, would feel no obligation so to do. Premises are provided for branches of many welfare organisations such as the following: British Legion, Soldiers', Sailors' and Airmen's Families Association, Married Women's Advisory Clinic, Infant Welfare Clinic, Women's Guilds of various kinds, Post and Ante-Natal Clinics, Day Nursery School, a War-time Nursery, a Charitable Organisation¹ known as the "All Good Causes Fund," for implementing statutory assistance where necessary, and, perhaps the most valuable, a Citizens' Advice Bureau. At such a bureau, citizens of all ranks are invited to bring their problems of all kinds. During the War, these bureaux established a fine reputation by their competent and sympathetic way of dealing with the thousands of human problems that were presented to them for solution. By the queries that come to a Citizens' Advice Bureau, the pulse of a neighbourhood can be tested. Thus, if transport, housing, shopping hours, hospital and other health provisions are proving to be difficult, the Citizens' Advice Bureau soon hears about it. The bureau works in close collaboration with the statutory authorities, receiving information from the public authority and reporting the incidence of enquirers' troubles to the authorities. An efficient Citizens' Advice Bureau can be, and in my experience is, a cardinal liaison office for welfare matters.

COUNCILS OF SOCIAL SERVICE

The Slough Social Fund could have become an executive welfare service by virtue of the financial contributions of manufacturers, but it has, apart from the Community Centre and the Slough Industrial Health Service (which will be mentioned later), preferred to facilitate agencies fully representative of the community to perform more general work in the field of social service. Thus, by its financial support and the seconding of staff and provision of premises, the machinery has been set up by which valuable work can be done through the medium of the Slough Council of Social Service. It should not be imagined that this Council has automatically achieved success. Such a

¹ This Fund is sponsored particularly by one individual firm, viz. Messrs. Aspro Ltd., and up to £5,000 per annum is raised for objects such as the name suggests.

body may suffer from the same kind of handicaps as are to be found in industry—self-interest, prejudice, nepotism, suspicion, fear of losing identities and so on—but these will disappear in time if members of the Council put their all into the common stock and all share in the work. In Slough, the Council of Social Service renders excellent service in the task of interpreting the needs of the neighbourhood and possesses specially close relationships with industry, statutory authorities and all the main voluntary services. Both Trade Unions and industrialists can and do take their share in its work. A local sounding-board is thus provided which possesses the confidence of the local authorities and public corporations and grows in the esteem of the ordinary citizen. The breadth of experience on this Council ensures that there is always someone qualified particularly to deal with almost any question that is likely to arise, even in these querulous days.

Housing.—In every area where the public authority is responsible for housing, the welfare worker should make himself known to the Housing Manager at the Town or City Hall, as the case may be, for it is certain that many of the problems brought to him will centre round the problem of accommodation. No Housing Manager can do the impossible, but he will be able to supply information as to the intentions of the authority regarding provision of houses, the rentals of such and how application is to be made. Perhaps too, in the very exceptional case of undoubted hardship, he will take a case to his appropriate Committee; this does sometimes expedite provision. Here is a liaison that must be made if welfare service is to be adequate.

Transport.—If transport is inadequate to ensure a reasonable service for workers, shoppers and others, the Council deposes its representatives to discuss the problem with the Transport Board or the other companies concerned.

Shopping.—Where shopping hours have been found inconvenient to folk, conferences have been held between the Council and representatives of the local Chamber of Commerce, with the result that helpful changes have been made in order to help the workers to obtain foodstuffs and other stores.

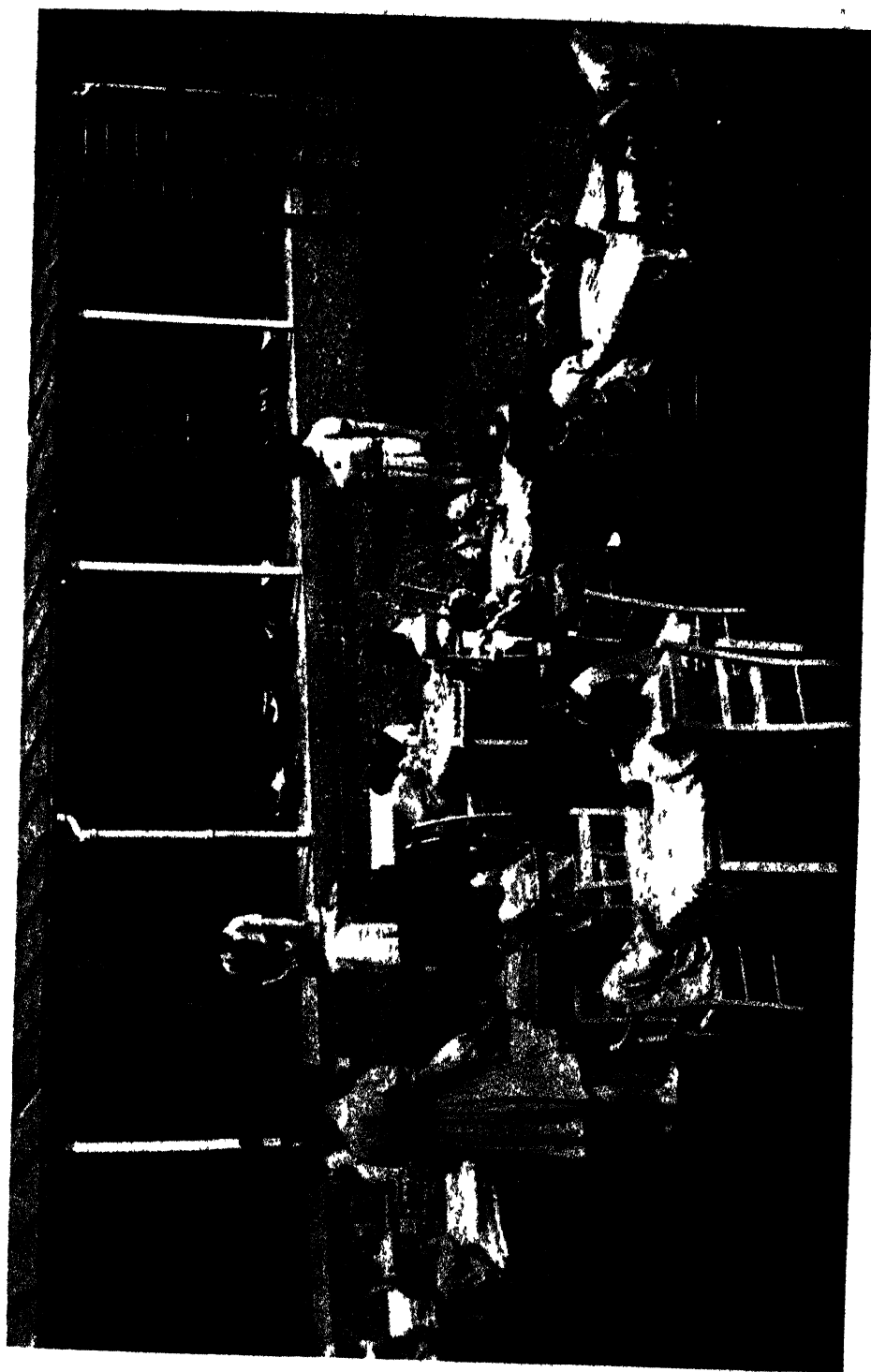
Day Nurseries.—Before any national service had evolved during the war, two Day Nurseries run under voluntary auspices were enabled to function largely by the financial aid of the Council and by the provision of premises by the Social Fund. Eventually, as further nurseries were provided by the public authorities, these two experimental nurseries were handed over and took their place in the statutory provision of war-time Day Nurseries which served such a useful purpose to workers and industry alike during those war days. With the demand in these present times for additional women in industry, the need for such war-time nurseries is again apparent.

There is still an idea abroad that it is entirely new for women to enter the factories. That is absurd, for was not one of the first schedules of Factory Regulations introduced over a century ago with a view to protecting women and children operatives? For decades, textile, lace, boot and shoe factories have been regular employers of women labour.

It is not the point to argue the rights and wrongs of women returning to industry, but it is obvious that some women will continue to work and it is essential, therefore, that provision be made for their children. No description of liaisons in Industrial Welfare can overlook some at least of the social implications of married women returning to or entering industry. It has been my lot to have considerable experience of case work and, during the war years, investigation showed that where the mother went to work the children also left home early in the morning and many of these young persons were not seen at home again till late evening. It appears as if there is some relationship between the incidence of juvenile delinquency and that of the numbers of homes where mothers are employed in workshops, institutions or elsewhere. That is regrettable and must be watched. In past years, many women unfortunately were driven by economics to enter industry to earn money; there were no family allowances and the earnings were necessary. The need for Great Britain to increase her exports makes a national economic call to women out of one which used to be essentially personal.

Since the war, nearly all the Day Nurseries have been handed over for administration to the Ministry of Education instead of the Ministry of Health, and these nurseries have become part of the educational system as set out in the 1944 Education Act. Conditions of service by teachers in the nurseries are almost identical with those of any other school provision. Therefore, teachers work the same hours in the nurseries as in ordinary schools and the holidays are the same. This means there are periods when the nursery provision is not available to the children of women in industry, and it may be that a *volte-face* on the control of the nurseries will be forced upon the authorities.

From time to time, much loose talk about the provision of nurseries can be heard. It is a difficult task—nurseries must have trained staffs, many of whom could be used in other important fields where they are required urgently. There are many people fully conversant with all facets of nursery provision who are doubtful if, in the end, further extensions of the nursery service will be the best way to secure further recruits to industry. The writer hates the conscribing of any person for military or other service, but, if young men are made conscripts for military service, is there any cardinal hardship in conscribing young women for essential services over a like period to that which applies to young men? At all events, expedient demands a request to women to enter or return to industry. Such a request presents many difficulties and creates problems with which industrial Welfare Officers with war-time experience are cognisant. The conscribing of young single women for a period would be immensely unpopular, but it is probable that many of those concerned could be left in their present employment. The call-up could be made to apply to those who were in entirely unproductive and unimportant work. Despite such exemptions as are deemed essential, a force could be obtained which could enter industry, and the personnel depart



Studio Wray, Slough

FIG. 9.—Young citizens at a Buckinghamshire Day Nursery at Slough Community Centre

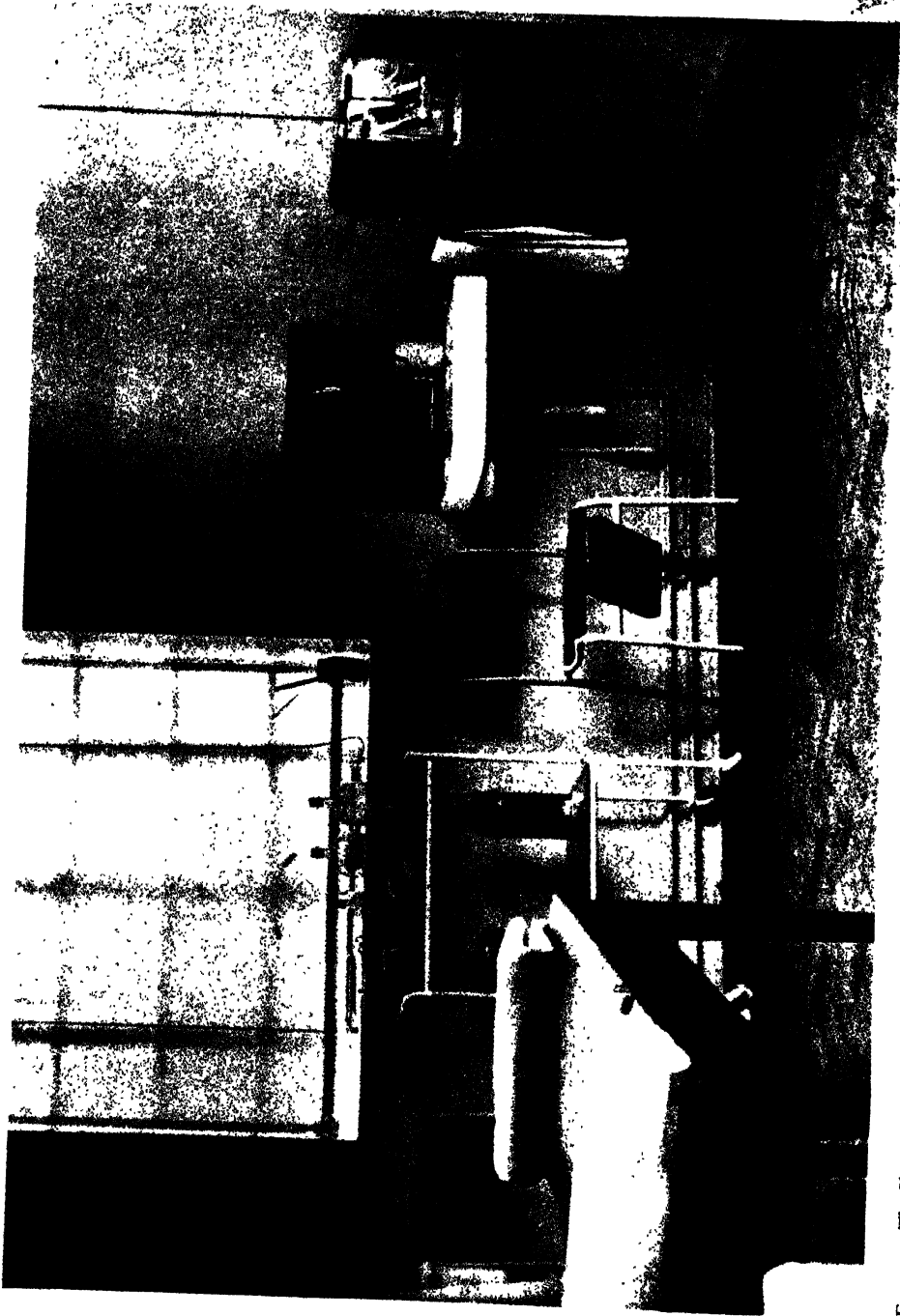


FIG. 10.—The Slough Industrial Health Centre is regarded as a pilot-plant by many high authorities and has been the subject of much attention. It was visited by delegates to the 9th International Industrial Health Congress during 1948. Illustration shows the Casualty Department at the Centre.

men therein would know that, apart from illness, the entrants would be available for a certain period upon some regular basis.

Thesemarried women with home claims are bound to be haphazard in their attendances, especially those whose children are of nursery or junior primary school age. Very great care should be taken to facilitate proper provision for young children of working mothers, adequate arrangements for shopping should be provided, with some relief from the pressures of austerity caused by the unfortunate aftermath of this country playing the major part in two world wars within twenty-five years. Such easements would give a mental stimulant to many women, who find that coupons for clothing and other goods are difficult to make go round. National impoverishment, however, cannot be cured by some few thousand women either entering or returning to industry.

Releasing Manpower.—A far more fundamental change in approaches to manpower, methods and attitudes will be required, but these matters will be considered elsewhere in this book. In passing, however, it appears to me that whether an industry is socialised, co-operatively run or conducted by private enterprise, there is one axiom that applies to all alike. Industrial history of the past hundred years must be considered now as a museum piece. Rancours and bitterness engendered over that period should remain as something that has been, and that is all! The common interest of employer and employee alike is the thing that matters for the future. If success is to be attained, all are concerned in the endeavour to secure stability and prosperity. There are no two sides of industry; fundamentally, all are one. Politically, this appears to be impossible yet, economically, the nation cannot stand the continued division of interest. It will take time for this conception of unity of interest generally to be accepted. But here again is a further reason for such local arrangements as the Slough Social Fund to be pressed forward with, thereby providing stimulation of the idea that manufacturers and working people can find much satisfaction in working amicably side by side.

Medical Services in Industry.—From time to time, opportunities occur to meet Medical Officers who are employed full- or part-time in industry, and it is always interesting to listen to talks and discussions about their industrial work. The large organisation that employs a full-time Doctor, with appropriate help, is more common than is often supposed and much useful data has been obtained regarding the incidence of accidents and illnesses where such arrangements have been in operation for some time. It is obvious, however, that smaller organisations cannot afford full-time Medical Officers, and yet many comparatively small factories employ part-time Doctors to visit at regular times in order to interview men and women workers. This arrangement has proved useful, so has the Factory Nurse and also the First-aid Station that is established in all modern factories. But there is room for much more experiment in this field.

It is interesting to record here another modern development, which

originates in Slough. The Slough Social Fund has provided premises (which are an integral part of the Slough Community Centre), and the financial assistance of the Nuffield Trustees and of others has enabled a special Industrial Health Service¹ to be initiated which is designed to serve the whole of the industrial community. Three full-time and two part-time Doctors with adequate industrial-trained nurses and physiotherapists are available. There is a Central Industrial Health Clinic which is equipped in the most up-to-date manner and, wherever a group of factories is concentrated, a casualty station is provided in which a fully trained nurse is available. She is able to secure medical assistance, if required, within five minutes. Welfare Officers can send patients to the central clinic for examination, where they are seen by appointment. No waiting-room is provided, and this fact is a matter of principle held by the Service. It is postulated that if industry will allow the time for operatives to attend the Clinic, then its officials should provide immediate service so that the shortest period of working time is lost. More recently, a "mobile surgery," the gift of Horlicks Ltd., has been provided to ensure that re-dressings can be done literally at the factory gates. Staffed with Nurse and Doctor, the surgery makes daily tours of the factory area and also calls at works where no resident Nurse is provided. By this means many hours of production time are saved. The closest liaison is maintained between the general practitioner and the Service. So, too, care has been taken to secure the fullest co-operation with the Hospital Services in the area. In the Records Department, a complete medical history is secured, and the statistics built up will be prepared by the Bureau of Health and Sickness Records. In the Physiotherapy Department, electrical and massage treatments of all kinds are available. A lesser but, nevertheless, much-used department is the Chiropodist's province. Workers on their feet all day often need attention to these extremities and, at the Clinic, such service is provided. A fully equipped Radiology Department is being provided so that early diagnosis of tubercular trouble may possibly save serious trouble later.

Rehabilitation.—A large country house has been secured and converted into a Rehabilitation Centre, where workmen may convalesce under the best conditions. Further developments here are projected whereby light industrial occupation will be provided and, under medical supervision, men or women not fit for full-time work may yet—at Trade Union rates—work and earn by the production of useful articles. During such work, skills and interests can be retained and some economic independence assured to those benefiting by the service. The psychological value of this provision must be immense, for Welfare Officers are always being faced with cases of men and women who

¹ Industry is at present wholly responsible for this service. Nuffield Trust money was earned in industry. Slough Estates Ltd., the owners of the Trading Estate, regularly assign 4 per cent. of their annual profits to welfare purposes. These annual contributions have been applied to all kinds of local social services, of which the Industrial Health Service is one. Is there not a precedent here which, with advantage, might be followed elsewhere? Similar schemes have been in operation for some time on rather smaller lines at Bedford and Birmingham. The cost to firms using the service is 14s. per capita per annum. A firm possesses its own nurse, 10s.

have returned to do their usual full job before they are really fit, in order to earn wages without which their whole family would be jeopardised. This Health Service will provide much information in the future on the incidence of accidents and industrial diseases in light industry, and it is viewed by authorities as a great venture into the field of industrial medicine.

Local Employment Committees.—These committees set up by the Minister of Labour form one of the statutory methods of providing liaison work between all concerned in employment. Their personnel represent the Ministry, employers and workers, with a sprinkling of independent persons possessing local knowledge and influence. The needs of the locality are considered, shortages of labour in the district are discussed and often the reasons for these are discovered, followed by remedial action. If no efficient welfare organisation exists in the locality, the Local Employment Committee may initiate a Welfare Section itself or, in districts in which such a representative body exists—which has proved its capacity to help—the Employment Committee may delegate this responsibility and refer welfare questions to such an organisation. This has been done to great advantage in many cases. During the war, some Local Councils of Social Service were utilised as the official channels through which clubs for workers, day nurseries, accommodation and such matters received attention. Where there is existing provision, it is my belief that the setting-up of a special Welfare Committee is a mere duplication of effort, but where there is no local body fitted or available to meet the needs, it is necessary for the Ministry of Labour to form such a committee. If this body is to function adequately it must be very representative—thereby it becomes a liaison agency between the various departments, societies and industry. The approaches to Welfare in Industry today are so diverse and the ramifications of its possibilities are so wide that it becomes imperative to secure the widest possible representative interest serving thereon.

LIAISON STARTS IN THE PERSONNEL DEPARTMENT

In large factories, the setting up of a Personnel Department has become the rule rather than the exception, and even in smaller establishments it is found that a person is made responsible for personnel problems even if he or she may not be designated Personnel Officer nor is able to boast of managing a department. Here, one can say that the successful liaison between industry and life can function best, for the efficient Welfare Officer will possess knowledge of all local agencies providing welfare services and will make contact with all such bodies on behalf of those men and women in industry for whom he or she is responsible.

To any Personnel or Welfare Officer with human sympathy the existence of a Citizens' Advice Bureau is well known, and workpeople with difficulties are often advised by the officer to attend the Bureau.

Housing problems and all such become known to the Personnel Department.

ment, and that makes him or her entitled to the title of Liaison Officer. In fact, one is not sure if that is not a more fitting title for, after all, the old term "hands" has not entirely gone out of use even if "personnel" is thought the more genteel.

In the smaller organisations, the lack of anyone charged with such special duties as described above does present difficulties and is only offset by the fact that many employers themselves, in the small factory, take the human interest that is so essential, and the links between need and service are made with this personal touch. If troubles arise regarding pensions, illnesses in the family, insurances, hire-purchase difficulties, problems *re* schooling of the children and so on, the Personnel Officer or the smaller employer in thousands of cases secures the services of the appropriate statutory or voluntary organisation in the interests of the worker. In certain instances, the Trade Unions are able to make the same kind of provision and are active; particularly is this so in the field of workmen's compensation, which so often presents difficulties to working people.

THE MINISTRY OF LABOUR WELFARE DEPARTMENT

This service became operative during the 1939-45 war and takes an overall view of welfare in industry. It is subject to a highly centralised authority and, therefore, any service performed by it must be national in its application. It is difficult for such an authority to undertake responsibility for an isolated need, however urgent it may be (excepting in war-time), for what the Department does in one place must, by virtue of its national character, be available elsewhere.

Nevertheless, the Ministry's Welfare Officers are called in as advisers on individual welfare questions. The Regional Welfare Officers operate on a level which can materially assist in securing materials necessary for good factory welfare work, and can use their influence to facilitate permits for essential repairs, building or redecoration of factory premises. They can represent the special difficulties of an industrial area to the highest level on such questions as housing, hospital accommodation and so on. The embodiment of the Factory Inspectorate within the Ministry's Welfare Department appears to be a logical change, although many people will still think that the Home Office remains responsible for factory inspection.

The relation of the Factory Inspector to industry is unique. He is adviser, he is policeman and yet remains a friend. His area is generally too big to give as much oversight and advice as is required, but, nevertheless, he is a very powerful liaison officer.

He sees that governmental regulations are fulfilled by employers. He convinces the workers of the need for certain safety regulations. He recommends to employers further improvements in regard to ventilation, lighting, feeding, safety measures and so on. His task today is very different

from that of his predecessor of forty years ago who was considered to be Public Enemy No. 1. By experience, employers have, firstly, found that good conditions are as important as paying a good wage, for they aid production. Secondly, standards have so improved that employers are not anxious that their factory be known locally as a poor show, partly because the labour position is so different and, also, because there has been a real development of social conscience. We are cynical about human nature and its failings, but this developed social conscience shows itself in many spheres, and the desire to provide better conditions in industry is one symptom of this development. Employers, too, realise that workers in many trades are not pressing for wage increases so much as for better conditions. A study of the advertisement pages of a local newspaper in a busy industrial area is enlightening in this respect. It will be noticed that firms advertising for labour all assure their prospective applicants for vacancies, of "friendly atmosphere, excellent welfare provision, canteen service, rest rooms, holidays with pay," and so on in the heaviest possible type.

In their own spheres, the factory inspector and other members of the Ministry of Labour Welfare staff are doing excellent advisory service and make liaison arrangements of great importance.

MECHANICAL AIDS

Telephone.—From time to time, it is probable that most people who use the telephone service have had a day when they wish that their particular line was out of order. They may have been extremely busy, and every few minutes the bell rings and sadly interrupts them in their work. On such days, the telephone has been verbally consigned to all sorts of places, but if one has moved into a department devoid of telephonic communication, or has commenced operations in a new factory without a telephone after having had this facility previously, the aggravation of being without the means of getting into immediate contact with business associates and other agencies is more devastating still. Ambulance, fire, hospital, Government departments, local welfare societies can be reached by telephone in a moment. It is an indispensable aid in this liaison work between industry and the world at large.

Welfare Officers in factories are busy persons, particularly in those cases where one individual person is responsible, as is often the case, for dealing with all the welfare services, acting as the channel through which the interpretation of the firm's policy in relation to employment and so forth can be provided. It has been said that any problem in a factory that is not definitely either production, purchases, sales or transport is nobody's business, and should, therefore, be referred to the Welfare Department! Fortunately, the Welfare Officer is being considered more of a somebody than used to be the case; and if human relationships are put in the very prominent position,

that all experience shows to be necessary, the Welfare Officer will find his mental abilities stretched to the full and his time wholly occupied.

Transport.—Some form of adequate transport is essential to the service, if the firm intends its Welfare Staff to keep in touch with employees who may be away from work either through their own illness or that of some member of the family. A visit from the discerning Welfare Officer is more than appreciated, if subsequently some outstanding need of the family can be met. How often it is found that a man is away from work because his wife is ill or is in hospital or maternity home. Just when he needs all he can earn, he is prevented from earning at all, for often he is forced to look after young children during his wife's enforced absence. The statutory provision of Home Helps,¹ short-stay or long-stay nurseries are still in their infancy as a general national service. The experienced Welfare Officer knows if such services do exist in his locality and makes the connection on behalf of the worker with the proper authority. Further, if no such help is available in his district, he should be encouraged by his firm to see whether something can be done to get things moving.

The Welfare Officer usually is a member of his appropriate Staff Association and, in session with his opposite numbers from other establishments, can discuss the local position in all kinds of essential services. Collective representations can be made to the appropriate authority or voluntary body or bodies. It is in the making of such schemes that many visits have to be made and time presses. I have, at all times, great sympathy for the conscientious Welfare Officer, as his trials are legion, but particularly so for that officer who is not provided with means of transport and yet is expected to do the job. It will be a long while before the internal-combustion engine becomes obsolete and a small car is a god-send to enable proper welfare liaison work to be well done.

Films and Poster Display.—Both films and visual charts are mechanical aids and, by virtue of the fact that they can be brought to the notice of many persons, form a powerful liaison agency in industry. Imagination and topicality are incentives for these mediums to do their work well. Old films, stale news or out-moded display material, however, should not be used, as it will lead to persons taking no interest in anything so exhibited.

Broadcasting Systems.—The broadcast systems operating in a works, either used for "pageing" purposes or for "Music while you Work" programmes or both, can serve the Welfare Department. Upon enquiry, I find that many workers do not listen and have built up an ear-resistance to "that — loud-speaker." It may be a convenient way to make contact with persons wanted but, if it is in constant use, it may become a liaison instrument that annoys and fails to attract.

¹ The English Steel Corporation Ltd., of Sheffield, is operating a Home Help Service. The Home Help will, on a full-time or part-time basis, undertake cleaning, shopping, cooking and care of the family, etc. No charge is made, but recipients of the service, where possible, make a donation to the Works Hospital Fund. Eight Home Helps are employed—their payment is 25s. per week retainer and 1s. per hour worked.

Here again, something imaginative, fresh and topical is required if this piece of mechanism is to help. If it is to be effective, its use must not be too frequent or else it becomes just another noise.

AREA CONSULTATION PLANS

In some areas, it appears likely that the common service of industrialists, representatives of Trade Unions, of the public authorities and of members of the local Chambers of Commerce in forming an association, such as that which is operating in the Medway towns, will prove of immense value. This movement is likely to survey its whole area with a view to securing the fullest industrial development, and one hopes, too, that it will concern itself with social development at the same time.

In the instance cited above, the main object appears to be one which will further the possibilities for full employment to be available in the thickly populated area around Chatham and the neighbouring towns. Employment in that area is a vital question to local industry, and this aim can have no division of opinion. In the carrying out of the schemes designed to provide full employment, all sides of industry will—although probably having disagreements on the means—co-operate in the work with a real prospect of success. It forms a real liaison in Industrial Welfare, for if there is to be successful employment, then there must be adequate provision for welfare. Similar schemes exist in a number of other places.¹

TRADE UNIONS AND WELFARE LIAISON

At one time, Welfare in Industry was "suspect" in the eyes of many trade unionists. This attitude was very strong, for instance, regarding the provision of Family Allowances. It was felt that such payments would be counted as an income and would depress wages. One has heard in the past bitter comments on these allowances, but today they are a welcomed and accepted part of national social service provision. In the same way as most trade unionists' attitude to Family Allowances has changed, there has been a change in opinion on Welfare in Industry. In fact, in these days, it is not only possible but is almost customary for the Trade Unions to circularise, and encourage all efforts made to promote welfare arrangements in factories, offices and shops. Representatives of the unions can be found taking a leading part in the work of societies and Statutory Committees formed to further the welfare of all engaged in gainful employment.

It is well to remember the opportunity provided through the Trade Unions of linking up the interest of the workers in these matters. Where this is done, the value of the liaison work accomplished is very great.

¹ Forest of Dean, West Cumberland, and the Development Areas sponsored by the Board of Trade.

SOCIAL AND OTHER "LIAISONS"

JOINT CONSULTATION

In the individual firm where a Joint Production Committee exists, it is obvious that great possibilities for liaison work between management and workers can be effected through its operations. It is possible that the greatest service that employee representation can give to welfare is to provide a way by which management may interpret itself to the workers and the workers to express their aspirations to the management.

It increases the sense of self-importance and responsibility of each worker and tends to create the feeling that he "belongs" to the factory organisation. Management is enabled to utilise the practical knowledge and experience of the workers, and it is in this last-mentioned sphere that new ventures in social and welfare provision may emanate.

As in ordinary life today self-discipline is the best, so in industrial relationships it is essential, and it is more likely to develop where workers and their employers possess the machinery for "full co-operation," and share daily in the task of "minding this machine"—this intimate piece of human mechanism

"YOUNG PERSONS" ENTERING INDUSTRY

For a decade or more before the war many Juvenile Employment Bureaux were busily engaged in paying out unemployment insurance moneys to young persons without jobs, and their officers in charge, engaged in these administrative duties, had little opportunity to give vocational guidance or to secure adequate welfare supervision for their young clients. It was difficult to discover whether the Ministry of Labour or the Local Education Authority were responsible for the service. Apparently this divided control was viewed with concern by the Government, and a Committee, over which Sir Godfrey Ince, K.C.B., K.B.E., presided, considered the whole question and produced a Report,¹ which has become known by the name of its chairman. It is obvious that the recommendations contained therein should be known to all Welfare Officers, and one person with whom the closest liaison should be maintained is the Juvenile Employment Officer. The Welfare Service should be permanently represented on the local Juvenile Employment Bureau Committee.

It is suggested that when employers' organisations are invited to send representatives to statutory committees of this kind, they should make certain that the welfare side of industry should be given its chance to make its special contribution. Sometimes this is done and excellent results are obtained, but too often representatives of industry are persons whose interest is technical only in the sense of production or salesmanship. If employers' representation

¹ The Ince Report, H.M.S.O., 1945 (price 1s.). No. SO.26/1451.

an be equally shared by one from the technical or production end and one from the welfare side, a useful combination is secured.

(In the above paragraph you will see an awkward phrase "technical only in the sense of production." This gives rise in passing to the thought that, generally speaking, the Welfare Officer is often described as non-technical. This astounds me, for it may well be that the skills of the Welfare Department contribute as much to the smooth and efficient working of a plant as may be secured by the efforts of other branches of management.)

The present system of administration of the Juvenile Employment Service is set out in a circular issued in March 1947, C.J.E.E. Memorandum No. 1, published by His Majesty's Stationery Office. The Ministry of Labour appears to be the central authority most concerned with the service and has appointed a National Juvenile Employment Council and separate Advisory Committees for Scotland and Wales. Yet, in April 1946, a Central Juvenile Employment Executive staffed by officers of the Ministry of Labour and the Education Departments was set up. Actually, this central body is collecting material for further legislation, and is preparing a new Model Scheme which is expected to act as a guide to all authorities dealing with Juvenile Bureaux. It is anticipated that many more Local Education Authorities will exercise their powers than has been the case in the past.

The transfer of local administration from the Ministry of Labour to the Local Education Authorities will involve a great deal of detail work, but it appears logical that such transfers should be made, as, under the 1944 Education Act, young persons up to eighteen years of age will be served by the Education authorities, by schooling to fifteen years and presently for day-release classes at County Colleges to the age of eighteen years. Welfare Officers will welcome the projected developments in improving the methods of giving vocational guidance and assessing the aptitudes of young persons. They can assist the Juvenile Employment Officers in keeping in touch with these young persons after they have entered industry. If the Welfare Officer has a boy or girl not fitting into the job, he should contact the Juvenile Employment Officer and see whether exchanges can be made which will be mutually beneficial. If any boy or girl needs special care, the Welfare Officer should consult the Juvenile Employment Officer, as the authorities have powers to grant payments designed to assist in certain conditions with aiding in the "settling-in" process of young persons.

Help is available, also, under required conditions for grants towards the cost of board and lodgings, midday meals and laundry. A great need for good liaison work is obvious in this section of welfare work.

YOUTH ORGANISATIONS

When boys and girls become "school-leavers" they are interviewed by the Juvenile Employment Officer and a representative of the voluntary youth

organisations operating in the area. The question of future employment and technical education is discussed and, also, the youth organisations' representative gives information to the school-leavers regarding the kinds of leisure-time facilities which are available. If young persons show interest in boys' or girls' clubs, or the uniformed organisations, they are given the main particulars about these groups, and are also provided with personal introductions to the unit officer of the organisations in which they are interested.

Welfare Officers can be saved much time if the youth organisations put their machinery in order and form an association with a Secretary, who is able to provide adequate information of all the youth organisations in the area. This facilitates action and enables the Welfare Officer to recommend a boy or girl to join an organisation fitting to his or her age, aptitudes and desires. In many towns combined youth associations exist and liaison should be made with all such grouped services.

FUTURE EDUCATION SCHEMES

With the raising of the school-leaving age for the moment to fifteen years, and finally to sixteen years, it is hoped that young persons entering industry will be better adjusted than is the case today. The two extra years should mean much to these young people; the Secondary School-leaver for years has benefited by such a further period. The shortage of juvenile labour during the early years of this educational advance will be acute, but the eventual betterment of the material entering industry will be worth waiting for, although the further complication of the Day-Release Classes for young persons up to eighteen years of age may soon be with us. The County College provision, as laid down by the 1944 Act, means that young persons in industry must attend fifteen hours each week for general instruction.

At a conference, which the writer attended, between the representatives of a Local Education Authority and nearly two hundred industrialists, it was almost unanimously recommended that any syllabus used in such a College should be mainly based on general education. It was decided that technical education should be provided at work and in the appropriate technical school or college. Employers wanted their young people to have a chance to secure a broader background than has been possible for the majority of young persons in the past. Welfare Officers know that up to 1946 boys and girls of fourteen years of age have left school with its twenty-six hours of work per week, entered industry and stepped up immediately to a working week of forty-four hours. This is a considerable jump. The County College will be an example of this longer week, and one looks forward to the time when the provision of buildings for the Colleges may be possible. There have been several voluntary experiments with Day-Release Classes, and one notable venture was made in Norwich five years ago.

This Norwich experiment originated from a joint arrangement between

three progressive firms in the city and the local education committee. The authority provided the premises, the employers were prepared to release girls aged fourteen to sixteen for three hours each week and pay for the time spent at school. This release could be only a voluntary provision and the young persons could not be forced to attend. Their opposition was, in fact, quite strong and, until they were assured that there was not the slightest intention to return to "orthodox" school lessons, there was no certainty that the scheme would not fail owing to lack of pupils. Eventually the school opened with no fixed syllabus or formal classes; the youngsters chose their own subjects—they were not imposed. This must have appeared very heretical to the orthodox H.M. Inspector, if he ever called, but the truth is that four years after its inception the same methods are still applied. Yet such subjects as English literature, films, social studies and travel, needlework, painting, cookery, music and singing, outdoor and indoor games and dancing, all provide interest, and further education in a broad sense, to those attending the school.

One interesting point made by the Head of this Day-Continuation Centre is that she believes that day-time release from work influences public opinion within the factory. The fact that these young persons are absent from work each week puts them in a special category. This helps foremen and adult workers to realise that they are in need of special care and that someone must be responsible for their well-being. It is a good thing that stress can thus be laid on the value of young life in industry. The 1944 Education Act makes the provision of Day-Release Classes obligatory, whereas the Fisher Act of 1919 allowed permissive powers. How few authorities have used them!

Many firms, however, have made provision for young entrants by both technical and general educational facilities being provided for. One of the largest firms in Yorkshire (Rowntree's), possessing its own day-continuation school, views this provision as one of their major departments. Within this school special technical skills are taught, and it is believed that it secures a special regard from all in the industry as being a sound, practical way of helping young persons, not only by providing systematic, progressive education and training, allowing them to grow up not merely understanding, but to be proud of, the work and the industry in which they may be engaged.

The Welfare Officer should be on almost intimate terms with the Headmaster of the Junior Technical School, for it is from here that many useful recruits come. This liaison is important to the Headmaster, for by it he is able to give consideration to the special requirements of an industry and temper his training methods to meet the need. In a similar degree, connection should be made with the Heads of the Secondary Schools. This direct touch with Heads may not be so necessary, if the Juvenile Employment Bureau service develops as planned, but even so the value of the contact with the Technical School necessitates this liaison being preserved.

The provision for young persons has been dealt with in this section somewhat untidily, but then there is not, as yet, a tidy or neat plan. It is doubtful if there ever will be, but the New Act provides an opportunity for better provision and, possibly, better administration.

THE TECHNICAL SCHOOLS AND COLLEGES

The implementation of the terms of the 1944 Education Act may be much delayed by the shortage of buildings. Nevertheless, the way is charted and Local Education Authorities must have submitted their plans to the Minister of Education for approval by March 1948. These will affect industry profoundly, and it cannot be too strongly stressed that industry will be asked for, and must agree to supply, its best aid to the projected services. To some readers living in large cities it may be a surprise to learn that there are many districts highly industrialised in which there is no Junior or Senior Technical School, or even if these are available they are badly housed and inadequately equipped. Nevertheless, they are doing good work by virtue of the devoted service of the teaching staff employed therein. Therefore, the extension of provision for adults which must be approved by the Ministry will lead to improvements in this sphere. Many firms appreciate the value of such provision, and at great inconvenience have, for years, released their young employees in order that they could attend classes in other centres where the provision is better.

As a parent, I speak with some knowledge as to the effects upon a young man out working all day and then having to travel twenty-five miles two or three times each week to attend evening classes, returning home nearer to midnight than is desirable at the age of eighteen years. With the new provision it is hoped that such travel may be less.

It appears that three types of College provisions will become available:

(a) Local colleges to meet general vocational and leisure-time education—these include County Colleges.

(b) Regional or central colleges to meet specialised requirements, particularly at advanced levels of education and research.

(c) National colleges for advanced technology and research in the case of industries or sections of industry with relatively few personnel. These colleges will be provided by the Ministry in close co-operation and with the assistance of the industries concerned. They will be run on a full-time basis for students released by industry.

Within these institutions, vocational training will be wide enough for the many grades of employees from the craftsmen or designer to the manager.

Leisure-time training sounds a bit hard, but the Act provides for a wide extension of educational and social provision to meet the growing demands of young persons and adults, and with a view to providing opportunities for community activity, and suggests that for this purpose Community Centres

will need to be built, or temporary buildings should be provided, to facilitate this service.

The Local Technical and Further Education Committees are to become more important bodies, and a place is provided on them for industrial and trade-union representation. Technical schools and their development, the consideration of and responsibility for leisure-time activities such as can be provided within Community Centres and, it is probable, the Youth Service, will be administered by these committees. This will save overlapping and will ensure some relationship between the statutory provision for young persons up to eighteen years of age and the many forms of youth service serving the same age-group. The Local Committees will serve a defined district and report to the Local Education Authority responsible for the administration of education in the area, either the County Borough or the County Council.

The categories of Primary and Secondary Education have been known to us for several decades. Now Further Education, which includes technical and social provision, takes its place with them and forms a triumvirate which will be watched by all folk who believe that balanced education is one of the, if not the most, important provisions of a modern State. In the statutory provision which is envisaged, room is left for the continuance of voluntary grant-aided services, such as can be provided by the Extra-Mural Departments of the Universities and the Workers' Educational Association and similar bodies. The Welfare Department must keep in touch with these sources of supply through its Education Officer. It should be his province to bring courses and lectures held by such Authorities, as well as the Education Department's programmes, to the notice of interested workers in his organisation.

Very little mention has been given in this section to the virtues of many works' own schools. It is acknowledged that these serve a most useful purpose in training young persons for the industry from which the school provision springs. Further, it is admitted that wider horizons than the mere future job are provided in some such schools; but unless the Local Education Authority is fully cognisant of the work done and assumes some responsibility for it, some difficulties will present themselves to young persons anxious to secure recognised qualifications. Practical training is most creditable, but so also is the sense of achievement which is experienced by a young trainee who manfully sits for and passes such examinations as secure him a Science Degree or the Higher National Certificate. Care should be taken, then, to secure the necessary recognitions so that the entrants in the Works Training School can achieve as much as the boy or girl who attends the local or the area Technical Institute. This emphasises again the need for close liaison between the Welfare Department and the Education Officer.

HOLIDAYS

Each year, exhortations to stagger holidays are received, and the logic and the practical value of this advice is obvious. Many young persons attend camps run by organisations of which they are members, and others take their holidays with a friend. Nevertheless, by and large, the annual leave remains a family institution. Schools do not break up until the end of July, leaving August and the first ten days of September available for the family holiday. No wonder that August is the most crowded and expensive holiday month.

Education Authorities are prepared to release children at early dates, but such permission cannot be easily accepted when boys and girls are getting towards their examination stage. Until the present examinations are taken at the end of the Autumn or Spring Terms, it will be found that this will remain a staggering handicap to a proper system of staggered holidays. All kinds of conferences have been held and some success has been achieved in this matter, but the fact remains that unanimity is secured only on the rightness of the principle.

The Welfare Officer has far more chance of success in his liaison between transport companies and his works staff regarding staggered hours of work than he can expect on the question of holidays. There are other reasons given for lack of progress; these are usually concerned with organisation, such as the economics of a complete shut-down for one period during which maintenance work on machinery and buildings may proceed without interruption. The August Bank Holiday is used as a further argument, which is that the works has to shut down from the Friday night until the following Tuesday. Therefore, when making a break it is well to extend it and get the holiday over.

Internal industrial reasons can be got over, as they are decisions of industry itself, but the school examination period remains a stumbling-block which can only be removed by bringing pressure to bear on the authorities concerned. These would include the Ministry of Education, the Universities and the Local Education Authorities. The facts as they are must be accepted but should not be allowed to deter the Welfare Department from trying to mitigate the discomforts and inconveniences caused by the continuing habit of canalising holidays into the very short period left available. This August period is the most popular and the most expensive; the heavy cost hits most hardly on the family with children at school, as they remain forced to take their leave during the school holidays. It is refreshing to find that this holiday provision is appreciated in industry, and some Welfare Officers are, through their liaison with holiday agencies, able to provide very helpful information to employees which enable holiday arrangements to be made well in advance.

The Works Holiday Fund, which is not uncommon, provides a means

by which, by regular weekly contributions paid in by workers, they are ensured of their holiday money, which is withdrawn prior to going away. In other cases, holiday houses are run by works' sports and social clubs or by employers themselves, where accommodation is adequate and comparatively inexpensive. All these provide useful service.

A great deal of effort has been expended on trying to secure the much-required conditions under which Staggered Holidays can become a piece of practical industrial politics. This leads to some consideration of Stay-at-Home Holiday Schemes.

STAY-AT-HOME HOLIDAYS

During the war, when travel was difficult, much of the British coast on which many of the popular holiday resorts are situated was out of bounds for mere civilians, and workers were doing many hours per week upon the urgent production of war material. The Ministry of Labour and National Service recommended all local authorities to initiate arrangements whereby amusements, entertainments and sports meetings could be provided in centres of population. These "Stay-at-Home" Holidays were provided on various levels throughout the country. The L.C.C., perhaps, as was fitting such a large authority, provided most comprehensive programmes. The amount of work expended on these events was very considerable.

In some industrial areas, the initiative for arranging the events was undertaken by Welfare Officers or other personnel released by industry for the purpose. The Mutual Aid Groups set up by the Ministry of Production during the war were co-ordinating bodies and, in their mutual contacts, much useful liaison was secured in the field of industrial relationships. The groups, so one learns, often were up against the staggered holidays impasse referred to earlier and were therefore directly interested in the Stay-at-Home Holiday arrangements for their respective districts.

One wonders if the dissolution of these groups was not premature or even ill-advised for, although their war-time duties have ceased, their coming together furnished the only means in some areas whereby machinery existed for mutual discussion and preparation for mutual action amongst industrial concerns. In Slough, the Stay-at-Home Carnival has been a most successful affair. In fact, it appears as if it will be always an integral part of the town's life. The reason for this is two-fold. Firstly, it has been organised most competently and not only provides many features which appeal to pleasure-seekers just for pleasure's sake, but also has its sections providing opportunities for folk keen on hobbies, arts and crafts, County cricket, trained athletes and lovers of such things to compete in, or to view. This carnival has secured the support of the general public by the catholicity of its provision, and has received the moral backing of the Public Authority and financial guarantees from many industrial concerns. Secondly, it is run not only

to provide a carnival but in order to raise money for all local hospitals and to refurnish the charitable chest of the All Good Causes Fund (referred to earlier). The public know that their payments go towards beneficent purposes and that they may be possible participants in the proceeds if ill fortune comes their way. Thirty thousand persons per day is a normal attendance.

Almost the whole of the immense amount of voluntary work which goes into this carnival comes from industrial sources, as all Welfare Officers know the potentialities of the services provided by the All Good Causes Fund. There are many cases of misfortune that, despite the manifold provisions of the State, must still be assisted from voluntary sources, and if a town is lacking in such a social service, Welfare Officers together might consider the prospects of such an annual festival with the aim of providing holiday amusement by which the many pay their small sums for the benefit of the few that fall by the way.

Slough and the Royal Borough of Windsor are geographically close but, in many respects, are isolated; they are in different counties; the traditions of one are new and are hardly crystallised, but the other possesses centuries of history. Yet industry has built a bridge, for many Windsorians work in Slough and this Stay-at-Home Carnival receives support from the civic authorities of that ancient borough on that account, and also because the All Good Causes Fund and the Hospital services are available to the whole district. It is an example of mutual aid between two towns, sponsored by industry, which has led to better relationships.

AT NATIONAL LEVEL

Up to now the bulk of this chapter, despite its references to the Ministries of Education and Labour and National Service, has been localised in outlook. In view of the changing times we live in, some mention must be made of more central provision of welfare and the contacts which remain to be made.

In 1929, an Act of Parliament was passed by which the Miners' Welfare Commission was set up with a degree of financial stability for its work which at the time appeared adequate but—with rising costs and the need for greater extension of welfare provision—time has proved otherwise. With the nationalisation of the Coal Industry and the setting-up of the National Coal Board, it was surprising perhaps to learn that the Board itself was building up a Welfare Staff, as it was expected that the Miners' Welfare Commission—by careful liaison arrangements—would perform such services as were required on behalf of the Board. This may well prove to be the case and, if so, the work of the Commission could proceed to the heights of service which they visualised performing if adequate funds were forthcoming. Many of their schemes were handicapped by the incidence of war.

It will be necessary in this field to make sure that the District Committee work of the Miners' Welfare Commission be not dissipated. On this national

level one wishes to see good liaison arrangements set up in this industry whereby local interests can be well linked up to both the Miners' Welfare Commission and the National Coal Board itself. Other industries may eventually need some central welfare authority, but it is too early to visualise in which way such central powers can be translated into the provinces. Welfare problems are so diverse, and great elasticity is essential for that reason; also because the development of welfare provision in some areas is good and in others there is a serious dearth.

It is obvious that with the trends of government being more and more towards centralised authority, there is a great need for the local application of these policies to be broken down to suit the particular needs of a locality. Perhaps—even more important—the need for local application emanates from the personal relationships in human affairs that are forged by such local application. The Welfare Departments in industry may receive a directive from Whitehall, but its interpretation into daily routine necessitates an understanding of the human problems and the ability to translate this faculty into something happily acceptable to workers.

The Ministry of Town and Country Planning in its "New Towns" Scheme is proposing to employ Social or Community Development Officers. This is an advance, and such officers will be keen to have the closest liaison with all welfare organisations either industrial or social. If all towns and cities had such trained persons competent to advise on and able to be the central liaison for all community action, much of the present lack of balanced neighbourhood provision might be obviated. Many of the loose threads, which have to be collected up by the Welfare Officer, who is out to possess all the essential contacts, before he is wholly competent to serve his clients, might have been woven into an overall pattern for the district if a Social Development Department were available in all districts. The Ministry of Health, in its manifold services, found the need for appointing Welfare Officers in many counties during the war to look after the interests of evacuees from target areas. The duties of many such officers have been taken over by the local authority, but the recent Curtis Report shows that much remains to be done.

Mention has been made, earlier on and in another section, of the powers and the provision of Welfare by the Ministry of Labour and National Service. A Welfare Officer may find a case of female absenteeism in his works due to the fact that the absentee is a mother, and her child, or children, cannot go to school, owing to lack of boots or clothing. This can still happen. The mother may be a widow, paying a high rent, and not able to work maximum hours, and is thus in economic difficulties. The Welfare Officer of the Education Authority should be contacted, as powers exist to make sure that children shall be provided with clothing so that they can go to school in a tidy, respectable manner.

If more industries become subject to nationalisation, it will be interesting

to see if the bodies appointed to manage them will set up Welfare Departments and, if they do, to see what liaison arrangements are made between such departments and the Welfare and Factory Inspection Departments of the Ministry of Labour and National Service.

PROFESSIONAL BODIES

No work on liaison in welfare can be complete without reference to certain voluntary bodies, whose services are available to all engaged in industry and give opportunities for liaison work on the highest levels. Nearly all Government action throughout industry has followed the earlier experiments of voluntary bodies. In industrial welfare this also is true, and many Welfare Departments owe much to the inspiration and guidance of the Industrial Welfare Society, which is national in its service although it has not succumbed to the modern desire of all kinds of organisations to insert "National" into its title. The society has performed a ubiquitous function which I record with gratitude, having received much aid from its specialist services.

It was formed in 1918, under the directorship of Mr. Robert R. Hyde, to promote all that part of management concerned with working conditions affecting the security, health and well-being of workers beyond statutory requirements, and with developing understanding between employer and employed by the widening of their mutual responsibilities. Its purpose is fulfilled by encouraging the practical co-operation of workers and employers in the prevention of accidents, establishment of thrift schemes, canteens, works' councils, suggestion schemes, works' libraries and works' magazines, pension funds, social and recreational activities, medical services, etc., etc. (The Society's advisory medical committee deals with requests from employers for information on questions affecting the health of their employees.)

Another body, the National Institute of Industrial Psychology, renders many services of similar nature to those performed by the Industrial Welfare Society. It is a scientific association for applying and promoting the development of the services of psychology and physiology in occupational life. The Institute is concerned with all matters affecting the human factor at work. It seeks, both by research and practical advisory work, to improve procedure of vocational guidance and vocational selection in order to reduce the number of square pegs in round holes; to make work easier, safer and healthier, and to increase the worker's interest and satisfaction in his task. This obviously must receive the daily interest of the Welfare Department, for the aims set out are everyday problems met in industry. The Chairman of the Institute is Mr. B. Seebohm Rowntree, C.H., LL.D., whose experience both of industry and general social conditions establishes confidence in the practicalities of a scientific approach to the many problems met in industry.

The Institute of Personal Management is a professional association of

Personnel Managers of both sexes engaged in industry as specialists in the personnel factor of management. Its aim is to encourage and assist the development of personnel management in Great Britain by making information available on the principles and practices of effective personnel management, and by undertaking research to this end; by increasing the knowledge and skill of its members through the services which it provides; by training, in collaboration with educational authorities, men and women who have adopted, or who wish to adopt, personnel management as a career, in order to maintain a high standard of qualification among them; and by maintaining contacts with Government departments, employers' associations, Trade Unions and other appropriate national organisations for the purpose of obtaining and giving information concerning personnel management.

The National Council of Social Service consists of representatives of nearly every responsible, voluntary national welfare and educational authority. These representatives meet together in council, with assessors from many public departments, with a view to co-ordination of effort or the instigation of action in all social fields. For many years, the National Council of Social Service was the agent of the Assistance Board in the areas worst hit by unemployment and did what it could to provide occupational centres in those districts, designed to provide opportunities for creative effort amongst those unfortunate enough to be out of work. This palliative service made a useful contribution to the dire circumstances in which so many found themselves. Holidays with pay and the results of legislation thereon have been the subject of research by the Council, and a useful handbook has been published regarding the needs and the facilities available.

It has been suggested that a local Council of Social Service should receive the interest of all Welfare Officers, and it follows that service can also be rendered by the National Council of Social Service on the national level.

A "COMBINED OPERATION"

The Welfare Officer in his liaison work in the factory or shop should be able to keep the eyes of all on the main ends and purpose of their work—namely, to create a plant in which *all* concerned exercise active goodwill, possess mutual respect and have confidence in and a determination to do all possible to secure the success of the firm.

Despite the wider contacts described in this chapter, perhaps the most important liaison work in the industrial world remains to be done in the factory itself. For here, the day-to-day human relationships are made. It is here where conflict can so easily flare up. The production of a healthy human organisation within industry is dependent upon no single panacea. It is secured only by a constant policy, which is understood and which welds all engaged in the organisation into a team which possesses confidence in its leaders.

A good coach in the sporting world often is presented with players, some of whom may be stars, but this does not guarantee the team's success. In fact, the presence of the stars may prevent progress. Real success for these players can be expected only when the understanding coach has welded them into a real team, for then he has been able to obtain happy relationships between the players, to initiate mutual respects for and between the varying personalities which form the team. This is a perfect analogy of liaison work in industrial welfare. The same patience, enthusiasm and skills are required for both tasks. When what is known still, unfortunately, as the "two sides" of industry are pulling together, progress is assured, and it is certain that personnel relationships through the organisation are based upon agreement and mutual confidence. Many advocates believe and urge that more and more Arbitration Boards in industry be instituted as a method of removing conflicts which lead to disruption of industrial progress. Such Boards have their place, but all their efforts can only result in compromise or the issue of a decree binding on both sides of the dispute. These findings are accepted, but the difference still remains. Arbitration is a most useful expedient but, in principle, may not solve industrial difficulty.

Industry, as stated previously, is a combined operation—in fact, just as dependent upon happy relationships and "give and take" as a man and wife in their wedded life. A matrimonial court may assist a man and wife who have fallen out to restart a more successful venture once, or perhaps twice, but if the success of the marriage is dependent upon visits to the courts at regular intervals, it is a poor look-out for such a union. So, in the industrial world, constant resort to legal procedure will alienate rather than unite.

It is essential, therefore, to facilitate the growth of the requisite mutual respect and joint aims throughout industry. In the perfecting of these relationships, the importance of the fullest liaison arrangements being made use of is obvious. The Welfare Officer who possesses the gift of establishing the best contacts may contribute more than he can guess at, for many relationships cannot be measured scientifically. The power of the "intangible" is still recognised even in the material times of this twentieth century in which we live.

“BACKGROUND INFORMATION”

By Edward J. Macdonald

THE range of a Welfare Officer's work extends far beyond industry; not because it is anyone's right or duty to interfere with the personal private affairs of individuals in office or factory, but because without a wide general knowledge of how people live and how they want to live, no Welfare Officer could hope to discharge a tithe of his or her duties with anything like competence.

It is precisely because welfare has to do with persons rather than with things, that personal difficulties must be understood as well as personal duties; that personal ambitions call for sympathetic understanding even if they are hopeless of realisation.

It is the purpose of this chapter briefly to indicate the scope of numerous national organisations the activities of which touch industry at one point or another. No attempt will be made to provide an exhaustive list of societies and services; for, apart from the fact that such a list would be too long to print except in a separate volume, the majority are in membership with co-ordinating councils from which detailed information can be obtained. But the descriptions given, sometimes with the historical background of the principal bodies concerned, will suggest, it is hoped, the various ways in which they can help to solve even apparently insoluble problems.

In general, these problems arise in connection with further education outside working time, with physical education, or with recreative facilities in a particular district, and with voluntary social services that may come into play when individuals seek advice on domestic or other personal difficulties. To a certain extent, the organisations in each field overlap or, at least, work in collaboration, so that a certain amount of repetition becomes inevitable. But in the main the purpose of each is sufficiently well-defined to prevent confusion of identity.

A fear has been expressed that with the increasing development of national social and educational services, governed by legislation and under the direct control of the State, opportunity for voluntary associations will become more and more restricted until at last it disappears. If that were to happen, of course, the various external aspects of industrial welfare would involve a closer relationship with Government departments and with local authorities than with a large network of possibly competing voluntary groups. And there are not a few advocates of the most comprehensive State control, just as there are many advocates of reduced control and greater liberty for individuals and associations.

A report of the National Council of Social Service defines the issue thus: "On the one hand are those who believe that, if social problems are to be tackled efficiently, continuously and uniformly, action on the biggest possible scale is essential; they maintain that voluntary societies have neither the financial means nor the administrative machinery to take such action. On the other hand, there are some who believe that State machinery is cumbersome and soulless, and that voluntary organisations alone can bring real human understanding to human problems: they tend to see voluntary and statutory agencies in conflict, the one struggling to resist the encroachment of the other."¹

As the report goes on to show, there is reason to believe that the day of the voluntary organisation is not over. Even if the State were to assume all the responsibility, now shared by non-Government bodies, a considerable period of years would elapse before the transition could become complete. Moreover, a great deal remains for unofficial initiative in the growth of new movements to meet new conditions. In many fields the State cannot experiment; and if it could experiment the State would still prefer to endorse proved successes rather than to foster schemes that run any risk of failure.

"It is possible, too, that there are certain pieces of social work which from their nature will in any foreseeable future be generally accepted as more suitable for voluntary action than for public control. For instance, as the State becomes more and more the public's schoolmaster, employer and landlord, so it will become increasingly necessary for the citizen to have independent advice on his relationships with the State. And in the vast and all-important field of leisure it is obviously true that much must be left to the spontaneous activities of the citizens themselves and to the free associations which arise from personal initiative."²

Thus if we assume for the sake of argument that our democratic State is bound to develop finally into the complete Servile State, a great deal of national welfare work, not under State auspices, will remain to be done. The lowest motive, to ensure the provision of "bread and circuses," would demand toleration at least of certain independent bodies. And it is safe to say also that religious leaders would insist on the continuance of youth and other organisations, free from State interference. They might be continued in a modern counterpart to the Catacombs, but continue they would, and only political folly would attempt to suppress them.

It is worth noting in this connection that the religious authorities of various denominations have secured in large measure the special facilities they sought in the Education Act 1944. It is interesting, too, to note in the light of arguments cited above, that exemption from special provisions in the national health schemes has been allowed to the principal training hospitals. In fact, however, these are not arbitrary exemptions. They seem to follow a settled policy which strengthens the view that the continuance of

¹ *Annual Report of the National Council of Social Service, 1945-6, p. 5.*

² *Ibid., p. 6.*

the voluntary organisations with undiminished strength is envisaged, even by those who favour extended State control.

Thus the Education Act 1944 provides clearly not only for the decentralisation of the education system, by which responsibility is given to local education authorities, but also for the full co-operation of the voluntary organisations. The importance of these is so clearly recognised that certain bodies are grant-aided, notably, in the field of physical education, the Central Council of Physical Recreation, of which an account is given in this chapter.

The policy of increasing State aid financially without decreasing the independence of voluntary bodies is carried into other fields, and further benefits accrue from special facilities with regard to the use of buildings and so on, without which organisations would find their efficiency impaired and their independence virtually worthless.

These aspects, affecting as they do the whole character and scope of voluntary movements, are worthy of consideration since they help one to realise what an important part they play in the welfare of the nation. A further point of importance is that, in their own interests, the major voluntary organisations have tended more and more to combine, without amalgamation or loss of identity, to further their particular ends. The formation of central councils and joint committees has become a remarkable feature of the welfare movement. Thus members of each organisation have at their disposal the pooled experience of kindred organisations and a close network can be seen linking multifarious activities for the good of all.

Examples of this trend may be found in the expansion of the National Council of Social Service on which nearly two hundred organisations are directly represented, which provides the secretariat for special standing conferences linking community centres, citizens' advice bureaux and youth organisations; and the Central Council of Physical Recreation which brings into association the governing bodies of nearly every sport, educational bodies and all the major youth organisations. To complicate the pattern, perhaps, but still to strengthen the structure of the whole movement, these central bodies are interlinked by joint representation. As a result, reference to any one co-ordinating group can lead, in a search for information, not only to a very large number of constituent bodies, but also to the numerous bodies making up another co-ordinating group.

The value of this unity in diversity is apparent. It greatly simplifies enquiries on a host of questions, it prevents overlapping and it enables organisations to combine or to remain apart as occasions serve. The Welfare Officer who has by him the addresses or telephone numbers of three or four central organisations can be put in touch quickly with any one of many specialised groups. Even reference to lists of members can suggest the appropriate body to deal with a current problem; and there is the further advantage that where one society cannot provide a solution its officers at least know from whom help can be obtained.

It would not be possible, if it were desirable, to set down a comprehensive list of subjects or cases on which the voluntary organisations reach an identity of interest with industrial welfare. Many examples will come to mind without prompting, and examination of the structure of particular bodies will suggest others. One that stands out in my own experience may perhaps be typical. Its interest is that it illustrates the interaction of the co-ordinating bodies themselves as well as the interaction of co-ordinating body and constituent members.

Some concern was felt by the Welfare Officer of a large firm employing many young messengers, because for considerable periods of time each day the boys were virtually idle. There were hours during which the need for messengers was constant and pressing, but the succeeding lulls might last for as long as an hour. At the same time, uncertainty made it necessary that they should be constantly on hand. As a result there was a great deal of lounging about in corridors, a great deal of open or furtive smoking, often where smoking created a serious fire risk, and a great deal of noisy talk and horseplay which distracted others who were less fortunate in the extent of their leisure.

To solve the problem thus created, the Welfare Officer called on the regional representative of one of the large co-ordinating bodies, who suggested that the boys might find an outlet for energy and more useful occupation if they became interested in one or more sports, or if they could be persuaded to form a social club of one kind or another. But this raised another problem, since the boys were quite content to remain idle.

Finally, the Welfare Officer was asked to find a room, reasonably within call for duty, to which the boys could go when they felt inclined and which could be fitted up as a makeshift gymnasium. The representative of the co-ordinating body, on his part, would provide the services of a coach who could be in attendance at certain times for classes or individual tuition. It was stressed that attendance was to be entirely voluntary and in work-time.

The experiment succeeded after seeming to be on the point of failure. Natural curiosity brought a number to the opening session, but suspicion kept a number away. On two or three occasions there was danger of a boycott. But eventually the boys realised that there was more to be said for having something to do than for idleness. Encouraged by the Welfare Officer, they formed a boys' club, themselves helped to equip their own gymnasium, formed football, soft ball and cricket teams and later initiated a sports league which brought boys from neighbouring factories into friendly rivalry.

The point was that the boys themselves came to believe that they were personally and wholly responsible for the growth of a movement within the factory which not only checked the effects of idleness but developed new interests, and was certainly beneficial to health. The experiment might not have succeeded, however, but for the fact that the regional representative

consulted could draw through his organisation on the services or advice of experts in each of several sports and of specialists in the organisation of youth clubs.

In another instance, the effect aimed at was directly to prevent occupational disorders as well as to provide for the enjoyable use of leisure. The firm concerned owned a large department store where many women and young girls were employed. There was little of the enforced idleness that occurred in the case previously mentioned, but constant standing caused a great deal of foot trouble, varicose veins and other ailments which could not be prevented by the occasional use of the seats provided by the firm.

Here the advice given on behalf of a co-ordinating body was that opportunity should be given in work-time for recreational classes so designed as to counteract the effect of excessive standing. These classes were entirely voluntary, and while forming a part of physical training, were far removed from the old-fashioned "physical jerks" that are capable of inducing more boredom than good health. Instead, the women and girls were offered rhythmic exercises, dances and minor games, and the use of a sports ground was secured for hockey and netball and lawn tennis. Again, the innovation gained favour very slowly but finally became an integral part of the life of the store. The girls derived benefit from work-time breaks and found their club valuable outside work hours. From the more selfish point of view of the store, the relatively small outlay of time and money required was more than repaid by the increased alertness of the girls and the virtual disappearance of occupational troubles.

It is really in regard to occupational problems that the association of the voluntary organisations and industrial welfare becomes most apparent. The poorest reason for giving due prominence in industry to welfare may be that it helps to reduce absenteeism and general proneness to accidents, but altruistic motives, however valid, make a less obvious appeal to many managements. It is certainly true that a Welfare Officer is the more likely to be consulted on personal matters not directly concerned with conditions of work if his competence is such that he is trusted and liked by those with whom he is engaged. But where outside bodies can make a direct contribution to the efficient running of a factory or other firm their importance to industrial welfare is seen to be immediate. A great deal of research and experiment on this subject has been undertaken in recent years; nevertheless, the opportunities offered outside industry to industry have not been recognised or appreciated to anything like the extent that might have been expected.

Preventable absenteeism can be due to many causes, among which a lack of interest in monotonous or repetitive work may be dominant. Accidents, when due to other causes than the absence of necessary mechanical or administrative safeguards, may be traced to ignorance (as in the matter of weight-lifting) or to general inattention, which in turn is due to boredom. If these faults can be corrected by facilities in work-time, as well as in leisure,

“ BACKGROUND INFORMATION ”

for recreative training or for the development of other interests, it would be folly to ignore them. And while it would not be economic in most instances to enlarge staff and purchase special sports grounds, a great deal can be done at reasonable cost by enlisting the aid of the leading organisations outside industry.

Special attention to industrial problems has been given by the Central Council of Physical Recreation which was grant-aided by the Ministry of Labour and National Service during the late war for this purpose, and now provides instructors and acts in a general consultative capacity for firms in all parts of the country.

The need became particularly clear during the war when overcrowding in improvised industrial premises, the introduction of a great many “ green ” workers, the general strain of war conditions, were found to be causing physical ailments, increasing absence from work and, therefore, hampering increased production. The decline of apprenticeship, and the employment of men and women of middle-age who were unfamiliar with their work, resulted in the inexpert handling of loads and machinery, often with grave effects on health. In many instances, too, long hours in cramped positions, a constant succession of repetitive tasks, and much standing by those who were not experienced in the avoidance of strain, impaired fitness if they were not the cause of illness or even permanent disability.

As a means of correcting these tendencies, the Council’s regional representatives were asked to develop appropriate forms of physical recreation for war workers, bearing in mind particularly the special circumstances in which people worked. To this end, week-end and holiday camps were conducted in association with youth organisations and governing bodies of sport, dances were arranged for evenings or lunch-hour breaks, and various sports and games leagues were promoted.

This proved, however, to be merely the approach to a problem, not its solution. A dance, a camp or a sports league may increase general fitness but cannot remove the immediate effects of strain in working hours. At best, leisure-time activities helped to develop co-ordination of brain, eye and muscles, so that general alertness was increased and the danger of accidents was thereby lessened; but these activities in themselves did not teach people that weight-lifting, improperly understood, can be dangerous, or that wrong methods of standing, sitting and general movement can affect the health as well as hastening fatigue. What was really needed was a series of active breaks for selected exercise, planned and presented as attractively as possible to give relief and entertainment in the course of instruction.

In time a number of firms were persuaded to adopt purposeful training on these lines, and progress through research and experiment has been steady since the war ended. Some thirty firms now allow time in working hours for breaks of twenty or thirty minutes during which corrective exercises are taught and practised, advice on standing, sitting and general posture is given,

demonstrations show correct methods of lifting weights, and special training is introduced to improve the general standard of fitness. The policy has been carried to its logical conclusion by several firms which have appointed full-time officers trained by the Central Council of Physical Recreation, who are responsible for the promotion of all forms of physical recreation in and out of working hours.

Although the grant given by the Ministry of Labour and National Service to promote physical education in industry came naturally to an end with the end of the war, work is still actively continuing with the approval of the Ministry of Education, by which the Central Council has been grant-aided for some years. Although still in an experimental stage the Council's work has proved to be an important contribution to industrial welfare, in the best sense of the term. One can assume only that the relatively small number of firms associated with the scheme is accounted for not by inherent defects but by lack of knowledge of its potentialities. But with the co-operation of the Industrial Health Research Board it is expected that the number of firms interesting themselves in the work of the Council will rapidly increase.

So far, in considering what we may call the outer rim of welfare, the aim has been not to particularise but to indicate as generally as possible the extraordinary number of points at which non-industrial bodies touch industry itself and are therefore of interest to the Welfare Officer. Reference may now be made to specific organisations considered under particular headings. The List of Organisations which ends this chapter is intended to give the principal sources of information while showing in some instances the general interaction of councils and societies.

EDUCATION

In so far as education directly affects welfare and the obligations of industry with regard to juvenile employment, a Welfare Officer is naturally conversant with regulations and should be in touch with the local education authority. The provisions of the Education Act 1944 with regard to further education in industry are not within the scope of this chapter; rather we are concerned with the increasing opportunities outside industry either for vocational training or for recreative physical training. These opportunities are now so many and far-reaching that some of the less enterprising local education authorities seem almost afraid to make their powers known, lest they should be overwhelmed by applications for which they could not find adequate premises or sufficient qualified instructors. In pleasing contrast are the education departments of large centres (the London County Council and the City of Birmingham are notable examples) where full advantage is taken of powers under the Act and where close co-operation with the voluntary organisations ensures the provision of instructors and facilities in a remarkably varied range of subjects.

But, despite regular publicity in advertisements, articles in the Press and in brochures and handbills, ignorance of the opportunities offered is still widespread; there is, too, a common reluctance to study or practise in new fields because they seem to promise difficulty. When asked for advice on vocational or recreative training a Welfare Officer can answer most questions by reference to the local education authority, but it is likely first that he or she will have to overcome curious prejudices among personnel.

There is a type that will object to instruction of any kind, saying: "I finished my education when I left school." There is another type that sighs regretfully on witnessing the proficiency of others in the belief that nothing is worth attempting that cannot be done really well. This attitude is fostered not only by a personal sense of inferiority, but also by the leading part played in national life by commercialised leisure. Where it becomes customary for the thousand to watch the skill of a few, the tendency is to assume that the lowest standard of proficiency must be that of the specialists.

In this connection it is worth noting that many have been persuaded to attend training sessions and courses in particular sports by seeing demonstrations accompanied by a running commentary in which fundamental principles were explained in an entertaining way, and the audience was made to see that enjoyment and benefit could come from even moderate proficiency. In the north Midlands a variety performance produced in this way by Mr. W. L. Latto and called "Spotlight on Sport" has been highly successful, particularly in industrial centres, and, in the experience of Welfare Officers in districts where performances have been given, attendance at, or recruitment for, training schemes has shown an immediate, lasting improvement.

In a sense, people of all ages come within the scope of the Education Act, though its detailed provisions have to do mainly with minors. As a result of decentralisation, local education authorities are empowered to give specialised training of all kinds, to assist the provision of facilities and equipment, to sponsor post-school activities covering a wide range. Correspondingly, in consequence of grants from the Ministry of Education such bodies as the Central Council of Physical Recreation place their regional officers and part-time instructors at the disposal of the local education authorities, who thus are in a position to create more opportunities than otherwise would be feasible.

The primary value of these post-school facilities is, of course, that they enable people to improve their efficiency at work without being debarred by lack of means. But equally important is their value in physical education. Welfare Officers who have not already obtained a complete syllabus from the education officers of their local authorities should make a point of doing so in order to be better equipped for enquiries and opportunities for advice.

To indicate the extent to which this form of further education is carried through technical schools' evening classes, men's and women's institutes,

commercial institutes and recreational institutes, it may be noted that the list of courses and classes issued annually by the London County Council contains over 1,000 items, "beginning with Accountancy and Acoustics and ending with X-ray and Zoology. Scattered at random in between may be found such different headings as Chiropody, Beekeeping, Law, Cookery, Dancing, Humanism and Hydraulics. Truly, it may be said that the Council's organisation of further education is designed to train the London citizen not only to make a living but also to train him to live."¹

SOCIAL SERVICES

If the services provided by the State, as a result of recent legislation, affect us from the cradle to the grave, it is equally true that there are few aspects of life which are not within the scope of voluntary organisations which cater for youth, which bring men and women into association, which care for old people and which protect the interests of the disabled and the infirm. Their names are legion. But, if only through co-ordinating bodies to which they belong, the great majority are represented on the National Council of Social Service which can answer many enquiries, or provide special services, either directly from its headquarters in London, or through the thirteen regional offices established in the principal centres of population.

The duties of the regional officers vary considerably from area to area. They include the promotion of new local Councils of Social Service, rural community councils, and community associations, and they also require attention to voluntary social service in districts where councils have not been formed. And as a channel of information the regional officer is in a position to keep members of the National Council's staff and committees constantly in touch with the realities of social service.

On them rested the responsibility during the crisis that immediately preceded the late war of supervising the organisation of Citizens' Advice Bureaux in all parts of the country, except in London, where by arrangement with the National Council, the task was entrusted to the Family Welfare Association. Citizens' Advice Bureaux proved to be so valuable during the period of hostilities that no Welfare Officer can be ignorant of their work. It may not be so widely known, however, that although many bureaux closed down after the war, a large number remain actively in being. A Standing Conference of Citizens' Advice Bureaux meets annually at the headquarters of the National Council from which are issued periodical Advice Notes and circulars. In addition, where information centres, directly sponsored by local authorities, have replaced the original bureaux, close contact is maintained between voluntary and civic organisations, so that a regular interchange of knowledge and experience is guaranteed.

Although Welfare Officers when asked for advice on personal problems

¹ *Floodlights. 1947-8 Guide to Evening Classes. L.C.C. 6d.*

may, as a general rule, refer enquirers to the nearest bureau, instances will occur in which either the enquirer will be reluctant to consult an impersonal body, or a stranger, or in which, for his or her own guidance in dealing with similar queries, information will be obtained from the bureau through the Welfare Officer. In any event, Welfare Officers and C.A.B. workers should know each other as they can be mutually helpful in many ways. If the advice sought by personnel has little or nothing to do with industry, enquiries received from other sources by the Citizens' Advice Bureaux will include a proportion that concern industrial welfare.

There is no limit to the range of enquiries received by the average bureau. They vary as conditions change; for example, whereas war damage was at one time a dominant subject the great majority of questions may have to do now with food, fuel and clothing.

That these bureaux fulfil a permanent national need may be gauged from the fact that although the number of bureaux dropped after the war from 1,060 to 639, it had been estimated in 1939 that a network of 500 would give sufficient coverage for the country. Moreover, some of them closed down because of the establishment of civic information centres. A truer guide to developments may be found in the number of enquiries received, which dropped from the peak war-time figure of 200,000 a month to 120,000 a month, a decline accounted for by the altered circumstances. As the National Council points out in the Report previously quoted: "Now the questions involve much longer investigation and more skilled handling. The volume of work is therefore not proportionately less. Furthermore, it is now possible to pay greater attention to the training of Bureaux workers and so to improve the quality of the service."

While the Citizens' Advice Bureaux may form the most widely known feature of the work of the National Council of Social Services, they are by no means indicative of the full purpose of the Council, which in addition to its general direct work through regional offices provides facilities for joint discussion and co-ordination of activity by means of the various conferences and committees promoted or encouraged from the headquarters of the Council. Of these the best known, perhaps, is the Standing Conference of National Voluntary Youth Organisations, known, in accordance with the fashion for initials, as SCANJO, to which more detailed reference will be made. Others include the Eighteen to Thirty Group, which, as its name implies, provides a means of consultation for societies whose membership consists predominantly of young adults; the Holiday Group consisting of representatives of the principal non-commercial organisations concerned with the provision of holidays within the means of lower-paid workers; the Central Churches Group which enables representatives of all denominations to confer on matters affecting social service, members of which include representatives of the British Council of Churches, the Roman Catholic Church, and the Jewish Community; the Women's Group on Public Welfare, widely representative

of all the principal women's national associations and closely in touch as a central body with local standing conferences of women's organisations; and the National Old People's Welfare Committee, representative of thirty-nine national organisations, linking the activities of ten regional and 150 local committees. The Holiday Group deals with problems directly complementary to the problems of industrial welfare, and so would seem to stand out in any survey of the work of the National Council of Social Service, but all bring together an immense fund of information and experience which it would be foolish for a Welfare Officer to neglect.

But over and above their separate organisation, as linking bodies for societies catering for particular classes of the community and people of particular ages, these standing conferences and groups, while acting autonomously, are linked to each other by means of representation on the National Council's Executive Committee. “In this way,” says the Council's report, “the greatest possible freedom of action is allowed to the associated groups to develop their own policy while ensuring that their action is concerted on matters of wide general concern.”¹

Of all bodies interested in the welfare of young people, the Standing Conference of National Voluntary Youth Organisations is the most comprehensive in that it brings into loose federation no less than twenty national associations, denominational, inter-denominational and non-denominational. The Conference came into being in 1936 and has expanded considerably since then, particularly during the war years, when the urgency of the many problems confronting youth organisations of all kinds gave special value to the consultative machinery it provides.

In addition to its members the Conference enlarges the field of opinion in which it works by inviting interested bodies to attend meetings as observers. There is thus liaison with the Ministry of Education and with various co-ordinating societies, including the British Council of Churches, the Association for Jewish Youth, the National Catholic Youth Association and the Central Council of Physical Recreation. Actual membership, however, is confined to societies which work with, rather than for, young people and are organised on a national basis.

It is clear, therefore, that the statements drawn up by members from time to time and issued with the authority of the Conference are more expressive of well-grounded opinion than the actual composition of the Conference would suggest. Attention is particularly directed to the important statements issued in April 1943 and revised in November 1945 in the light of the Education Act 1944. Under the general title “Partnership in the Service of Youth,” these statements survey modern conditions and the needs of the community with particular reference to youth. The second statement clarifies principles of education and sets out the opportunities afforded under the Act, opportunities now so great that they are offered not only to the

¹ *Annual Report of the National Council of Social Service, 1945-6, p. 26.*

but also to people of any age who wish to take advantage of them. Reference has been made already to the powers given by the Act to local education authorities from whom detailed information applicable to local circumstances may be obtained. Here, to emphasise the important rôle which the voluntary organisations and their standing conference are playing in the present development of education, it may be mentioned that "further education" as envisaged by the Act includes "leisure-time occupation in such organised cultural training and recreative activities as are suited to their requirements, for any persons over compulsory school age who are able and willing to profit by the facilities provided for that purpose."

Partnership in the Service of Youth 1945 points out with reference to young people in industry that over a million members of voluntary youth organisations are in industrial employment, and that leading industrialists have suggested a closer liaison with the organisations. In this connection "great opportunities are open to County and County Borough standing conferences. Local standing conferences should endeavour to make contact with Juvenile Advisory Committees or Juvenile Employment Committees. . . . There should also be greater liaison with the Trade Unions and Trade Councils."

It is further recommended that interchanges of visits should be arranged between youth organisations and industry; for instance, Welfare Officers might be invited to visit units and youth organisations whose leaders in turn might be given opportunity to study working conditions.¹

In any event, Welfare Officers if not already in touch with the Standing Conference of National Voluntary Organisations should at least maintain contact with as many as possible of its constituent members. Particulars of local standing conferences may be obtained from any regional office of the National Council of Social Service. It will be found in some areas that local authorities prefer to work in conjunction with their own youth committees. Elsewhere the standing conferences fulfil the same purpose as the youth committees and are deliberately encouraged to do so; for local education authorities in making provisions for various forms of primary, secondary and further education in their areas "shall, in particular, have regard to the expediency of co-operating with any voluntary societies or bodies whose objects include the provision of facilities or the organisation of activities of a similar character."

By being in touch, therefore, with local education authorities' civic youth committees (where established) and local Standing Conferences of National Voluntary Youth Organisations, Welfare Officers in their work for young people are really in touch with a vast network of communications, statutory and voluntary, through which advice and assistance on practically every subject, even remotely concerned with education and leisure-time activities,

¹ *Partnership in the Service of Youth 1945*, National Council of Social Service, 26 Bedford Square, London, W.C.1, price 6d.

can be obtained with a minimum of difficulty or delay. At the same time, they have a direct link with bodies acting for or with young adults, as well as a further link with associations concerned with every aspect of social service. Consequently the list, given on other pages, of the constituent members of various co-ordinating bodies will repay very careful study. It will be noted for instance that the British Legion with its thousands of branches and its fine record of achievement in the interests of ex-servicemen and ex-servicewomen is in membership both with the National Council of Social Service and the Central Council of Physical Recreation. The work of the Legion is too well known to require description; it need only be said that the name and address of the local secretary should be easily to hand in every welfare office.

Before considering other forms of social service, as represented primarily by the Family Welfare Association, mention should be made of the co-ordinating work for youth movements undertaken by such bodies as the National Association of Boys' Clubs and the National Association of Girls' and Mixed Clubs.

Examples have been given of the benefits that accrue from the encouragement of recreative and social clubs which meet either in work-time or after working hours. The character of these voluntary groups must vary according to place and circumstances; where flourishing clubs exist outside industry, to which the majority of young people in a factory belong, it would be absurd to consider the formation of new ones; but there are instances in which nothing would be done unless facilities were offered of one kind or another within industry, particularly in large industrial centres where a factory or works happens to form a natural unit. Enquiry locally will show to what extent youth clubs have been provided in a given area; and, if they are non-existent or insufficient in number, advice on the best means of promoting them will be given without obligation of any kind by the national organisations concerned. The National Association of Boys' Clubs, for instance, offers not only free advice but also a personal visit by a representative to anyone contemplating the formation of a club.

BOYS' CLUBS

The National Association of Boys' Clubs has grown during the past two decades to such an extent that some 2,500 clubs in all parts of the country are now affiliated, with over 600 full-time, 225 part-time and 1,600 voluntary leaders as well as 16,000 voluntary helpers.

The individual clubs cater for boys just leaving school, which means, in many cases, boys just entering industry; and the normal period of membership runs from school-leaving to the age of eighteen. Thereafter, if a boy wishes and such a club exists, he can join an "old boys'" club. In all cases the boys themselves are given the fullest initiative in the formation and

carrying out of programmes of club activities, though, particularly in the early stages, a trained club leader suggests and advises on procedure.

Great importance is attached by the National Association, and here the training and experience of a leader come into full play, to the planning of a full programme of activities which must aim at a proper balance between the mental and the physical. The primary aim of a club is to promote the physical, mental and spiritual welfare of its members and, while the development of purposeful recreative training keeps the mind active at least to some extent in recreation, balance cannot be achieved if one aspect or the other is given less than its due prominence.

On the other hand, typical or standard programmes for clubs throughout the country cannot be adapted easily to meet local conditions. Even within a single club note must be taken of the work done by the individual boys. "If, for instance, a number of members are employed in shops as assistants or errand boys, it will not be necessary to look far to explain their apathy to street running. Similarly, the leader must expect boys employed as cabinet makers to be somewhat critical of the club's unprofessional woodwork shop. Again, members who are fatigued by heavy physical labour at work are often unable to take part in strenuous club activities. . . . Curiously enough, this last is not always true of industrial workers. Instead of wanting to rest, some appear to possess a surprising appetite for excitement and make demands for vigorous activities. This is doubtless due to nervous tension common among process workers."¹

Any encouragement to join an existing boys' club or to help form a new one should be preceded by enquiries as to the provisions already made in the district. Here again local education officers are in a position to give information. Failing them, enquiries should be addressed to the appropriate area organisation of the National Association of Boys' Clubs or to the headquarters of the association in London.

GIRLS' CLUBS

The aims of the National Association of Girls' Clubs and Mixed Clubs and assist in training activities, but, as in other organisations, the establishment of the national body is confined to non-political clubs with a minimum membership of twelve, at least half the members being between the ages of fourteen and twenty-one; each of the 2,300 clubs in the association is affiliated to its local regional association. Total membership is estimated as being in the neighbourhood of 153,000.

Leaders are qualified to supervise the general work of a club, to advise and assist in training activities, but, as in other organisations, the establishment of a members' committee elected by members from amongst themselves is a prerequisite of affiliation.

¹ *The Club Programme Its Key Qualities* N.A.B.C., 9d.

Full information with regard to existing clubs on the formation of new ones can be obtained from education officers or from any of the area associations listed.

FAMILY WELFARE ASSOCIATION

Although carrying on somewhat similar work to that of the National Council of Social Service, of which it is a constituent member, the Family Welfare Association merits description not only as a national organisation which has initiated many reforms now guaranteed by statute, but also because a great part of its social work is carried on through local London committees. Of particular value to Welfare Officers, apart from the help that can be given to solve individual personal problems, is the Enquiry Bureau established at the headquarters of the association, where thousands of enquiries on social subjects are answered by interview, telephone and post. In addition, the Association compiles and publishes the "Annual Charities Register and Digest," an authoritative guide to charitable institutions and charities. This work of reference can be recommended warmly since care has been taken to make the record and particulars given complete, and to exclude fraudulent organisations. Its contents may suggest the solution of personal problems or indicate funds to which applications might be made in special circumstances.

Under its original title, the Charity Organisation Society, the association was founded in 1869 to relieve distress through individual case work rather than through direct almsgiving.

At that time none of the social services we accept today as a matter of course was in existence. Many, indeed, have found their way to the Statute Book through the instrumentality of the Association. And, as if to complete a vicious circle, conditions aggravated by overcrowding, lack of adequate relief in destitution, poor wages and victimisation in industry, the channels of charity were being choked by professional beggars and fraudulent appeals. Moreover, people tended not to give to the deserving on the assumption that they would be cared for by the Poor Law Guardians, whereas the Guardians limited relief on the assumption that it would be given from voluntary sources.

The founders of the Charity Organisation Society concentrated on individual case work, but more public action was forced upon them by the evils they set out to attack. It was useless, for instance, to remedy the effects of usury unless some steps could be taken to curb the activities of the usurers; useless as well to make good in kind the losses suffered by the poor from misplaced charity unless something could be done to make professional begging dangerous or unprofitable. So, as the society developed its work took on a dual character, case work remaining its most important function, with research into causes of social evil and the promotion of legislation to check evil as a necessary side-line. Eventually, both departments were co-ordinated.

In 1945, to mark the development of the society as a positive instead of a somewhat negative organisation, which it had ceased to be many years before, the name was changed, and the Family Welfare Association gave the society a new lease of life.

The history of the Family Welfare Association is, in a sense, a history of social reform in Britain during the greater part of the century; for while it was not itself directly responsible for many of the reforms or changes that have occurred, the evidence collected by its members has been instrumental in swaying public opinion, possibly as often as its action has led to specific legislation.

For instance, within six years of the foundation of the then Charity Organisation Society, a mass of irrefutable evidence on the victimisation of families led to the passing of the Artisans' Dwelling Act. And this had another important consequence, for the groups of enthusiasts who had begun to help their poorer neighbours by concentrating on family case work—still the pre-eminent work of the Association—now found that by sponsoring a successful campaign in the matter of housing, they were regarded as social workers whose evidence could be of value to Royal Commissions, to whom Members of Parliament might usefully go for information, and on whose help many public bodies might safely rely. While the fullest confidence was preserved, as between workers for the Charity Organisation Society and the families whose distress they wished to alleviate, the workers themselves, gaining valuable experience, formed an important advisory group to whom Government departments and legislators could turn for first-hand information. The society at least influenced the passing of the Children's Act 1908 and the Old Age Pensions Act of the same year. It played its part, too, in the events that preceded the passing of the National Health and Unemployment Insurance Acts, and with the Registration of Charities Acts 1916 and 1940.

The aim, then, beyond the relief in kind of distress in individual cases, was to remove the causes of distress, to increase the social security of the average family, to check usury and to prevent unjust evictions or seizures of goods. This was illustrated by the help given in the drafting of the Bills that became the Money-lenders' Act and the Hire Purchase Act. And the activities of professional beggars who diverted charity through the channels of fraudulent concerns, or into the pockets of battenning individuals, were curbed partly by the promotion of legislation but more perhaps by the development of the Enquiry Bureau at the Family Welfare Association's offices which now deals with an average of 250,000 enquiries a year. It is a commonplace for the Association to be asked by intending donors to advise on the *bona fides* of societies or individuals who issue public appeals, more than a few of whom have had reason to regret the investigation of their claims by the Association. But, wisely, this aspect of the work done by the Association is not too sharply emphasised, lest people should imagine that it exists as a sort of detective agency in the employ of philanthropists. Since bogus

charities are directly antagonistic to welfare work they must be fought as a necessary corollary to any effort to promote family welfare. But the Enquiry Bureau, the editing and publication of the "Annual Charities Register" and the administration of special funds remain merely as necessary aids to family case work.

Because of the unique position in which the association (or the Charity Organisation Society which it was still called) found itself in 1938, when war was imminent, it was called upon to take over a considerable part of the organisation of special social services and the administration particularly of foreign funds. The National Council of Social Services, as has been mentioned, was active in the formation of Citizens' Advice Bureaux throughout the country, but in the London district the Association had strong district committees, a central headquarters near Westminster, and a fund of knowledge not possessed by other bodies. By agreement, therefore, with the National Council of Social Service and the Government departments concerned, the Association established Citizens' Advice Bureaux in London, trained advisory staffs—a matter of some difficulty as experienced Welfare Officers will appreciate—and later co-operated actively with the British War Relief Society of America, which involved action for the society at the receiving end in London, and as time passed the undertaking of administrative work in this country for funds to aid war distress, established in a large number of allied countries.

In this sense the activities of the Association assumed almost an international character during the war years and the years that immediately followed the end of hostilities. Appropriate channels were provided for the distribution of goods and parcels sent to London from abroad, and close co-operation with a large number of societies engaged in one way or another in social service. Meanwhile, the advice given on the multifarious problems brought to the Citizens' Advice Bureaux was supplemented by the establishment of legal advice centres, which, in certain cases, added to advice the negotiation of claims with regard to accidents, workmen's compensation, etc., the preparation of documents and the legal representation of people who could not afford legal aid in the usual course of events.

More recently, in conjunction with the Marriage Guidance Council, plans have been made for the establishment of special centres each in the charge of a fully trained social worker, assisted by men and women qualified to advise on marital problems. Very considerable importance is attached to this development in view of the disturbing effect of the war on family life through the destruction of homes, the call of women to industry, the transfer of young persons from their homes to factories or to evacuation centres, and the prolonged separation of husbands and wives during military service. In view of the frequent enquiries every Welfare Officer receives with regard to one aspect or another of disharmony or disintegration of family life, the interest of the Family Welfare Association in the formation of Marriage Guidance Councils should be noted; for contact can be made outside London

with the Marriage Guidance Centres now forming in all parts of the country through the numerous bodies which co-operate with the Family Welfare Association, or directly through the National Marriage Guidance Council.

MARRIAGE GUIDANCE

The National Marriage Guidance Council and, in matters affecting child welfare, the National Society for the Prevention of Cruelty to Children, are two other important organisations represented either directly or through affiliated bodies in nearly every large centre of population. Both are prepared to advise on any points within the scope of their work, and some knowledge of that work may well be repaid by the help they can give to personnel in need of information or expert assistance.

The National Marriage Guidance Council is a comparatively young body that came into existence first as the London Marriage Guidance Centre. That was in 1943 when war conditions, with the separation of wives from husbands and of children from parents, were threatening the permanence of large numbers of marriages. The attitude of the founders from the beginning was that as a great deal of crime, general delinquency and misfortune was traceable to unsatisfactory home conditions, any effort to raise standards of family life must necessarily affect for the better the life of the nation; and as the relationships between husband and wife was central to family life, encouragement and guidance towards sound, successful marriage helped, by its effect on the family as a whole, to improve standards of citizenship.

This view brought within the scope of the Centre the provision of a remedial service for those whose marriages were in danger of breakdown, the development of educational policies which would tend to prepare young people adequately for married life; and the improvement of social and economic conditions which made full family life difficult if not impossible. Of these points the third, i.e. the improvement of conditions, is placed first in statements issued by the present Council, but the order may, in this consideration, be reversed, since the work done is largely of an advisory nature, and efforts to secure adequate housing accommodation or to reduce the incidence of poverty and unemployment must be left in the main to other bodies. The two other points provided sufficient opportunity for the Centre to give expert assistance to men and women in need of it. That the assistance was welcomed is shown by the fact that more than 5,000 men and women sought the help offered in the first four years during which the Centre was open.

Encouraged by this start, the Centre convened a week-end conference in 1946, inviting to it representatives of similar centres in a number of provincial cities and towns. As a result it was decided to co-ordinate the work of all centres by the setting up of a national organisation to be known as the National Marriage Guidance Council.

Now, while local councils, committees and panels remain autonomous

they have the benefit of pooled experience and information, and can count upon the discussion of the many urgent problems they encounter on a national level. The National organisation too is in a position to assist volunteers to form new councils or panels in areas where none as yet exist; and new councils are being formed at the rate of two or three each month.

In general, local councils operate in large centres of population, while in smaller areas it has been found sufficient to set up advisory panels. Both forms of organisation entail the appointment of counsellors who conduct interviews, advise, or pass on technical points, and who receive special training for the task under the ægis of the National Council; the formation of a group of consultants, each a specialist on some aspect of marriage; and, of course, the recruiting of clerical staff to deal with correspondence, records and so on.

The responsibility attaching to the work is necessarily heavy, since any but the best advice would make the cure worse than the disease. And as the strictest confidence is essential to the conduct of all interviews, great care is taken in the choice both of counsellors and of clerical staff.

It would be safe, therefore, in recommending personnel who volunteer problems with regard to marriage, to refer them to the nearest Marriage Guidance Council or directly to the National Council, if a local council cannot be located. As a rule, a counsellor will prefer to advise before a problem has arisen, or at least before it has reached the point of being nearly unsolvable. That is why great importance is attached to lectures and other forms of instruction for engaged couples or the newly married; but it is unlikely that this aspect will concern the average Welfare Officer unless personnel are in the habit of seeking advice of this kind before their need for it becomes desperate.

In any event, no Welfare Officer will need to be reminded that marriage problems affecting personal relationships outside industry do not come within the scope of their work unless advice is sought; though sympathetic enquiry may on occasion be the only alternative to dismissal, if trouble at home is making its effect felt within working hours.

One point should be borne in mind when assisting enquirers to get in touch with the Council. It affects religious questions. Although the purpose of the Council carried to its logical conclusion is to make divorce unnecessary, a certain number of people seek its aid at a time when the situation has become so aggravated that separation at least appears to be inevitable. Advice is sought also from time to time with regard to birth prevention; and as both divorce and birth prevention are condemned by the Roman Catholic authorities, the Council has welcomed the setting up of a Catholic Marriage Advisory Council, which will, it is hoped, have branches eventually in all areas where committees affiliated to the National Marriage Guidance Council operate.

In accordance with the recommendations of the Denning Committee Report, 1947, both Councils are now grant-aided, though not to a great extent, by the Treasury.

CHILD WELFARE

The preventive and remedial efforts of Marriage Guidance Councils have their counterpart in the work undertaken for children by the National Society for the Prevention of Cruelty to Children. An old-established and nationally famous organisation, the N.S.P.C.C. works through some 200 local branches, each self-governing to some extent, and the paid staff, including the highly trained inspectors of the Society, is supplemented by 40,000 honorary workers in all parts of the country. Reports show that the N.S.P.C.C. deals annually with an average number of cases affecting 100,000 children.

Welfare Officers may be obliged in certain circumstances to report cases to the N.S.P.C.C. when the welfare of children is in jeopardy. They may be asked for advice in other cases where the N.S.P.C.C. might help. But it should be recognised that the Society suffers, as others have suffered, from the negative implications of its title.

True, a very great part of its work is concerned with ill-treatment or neglect. Yet the records of the Society show cases, treated, of course, in confidence, in which the help of inspectors has been sought, not because parents were failing in their duty but because they were anxious to assist the welfare of their children. In many other cases it was possible to take preventive action at an early stage of trouble in a family and to restore both harmony between husband and wife and good family life. It is unfortunate that the most vital work of the N.S.P.C.C. should tend to be obscured by the implications of the title, for prosecutions form only a small proportion of the cases investigated in a year, when as many as 37,500 cases may be dealt with by the Society.

RELIGIOUS BODIES

It may be appropriate, after referring to family welfare in relation to the external range of a Welfare Officer's work in industry, to add a note at this point on the religious bodies to which a very large percentage of men and women in industry are attached, if only nominally. The assumption is common these days that the churches have lost their hold on the people, the vast majority of whom are either hostile or indifferent to religious observances. Yet only a little experience is needed to show how very often, particularly in times of difficulty or distress, advice is sought on religious matters, or arrangements must be made to satisfy the requirements of religious bodies.

There is no need to list denominations or to summarise the teaching of different religious bodies on subjects that may affect welfare. Where information is needed, local clergy or ministers of religion are only too willing to help. It should be remembered also that the pooling of experience and co-operation through central advisory bodies has been one of the remarkable developments in the religious life of the country during the past two decades.

Here it will be sufficient to suggest that where personnel volunteer personal problems, or where apparent absenteeism is excused by religious observances, help is best given by reference to the nearest clergyman, minister or rabbi. A Welfare Officer may be wise to make the approach personally if asked to do so, since many people hesitate through shyness or some such cause to seek the help of their religious leaders when they need it most. In any event, it would be as well to know in advance of feasts, or fasts, or local religious observances which may affect the working hours of any proportion of a staff. The information is easy to obtain and is useful to harmonious relations in industry as in every other sphere of life.

CENTRAL COUNCIL OF PHYSICAL RECREATION

Some account has been given already of the work of the Central Council of Physical Recreation, chosen not as the only co-ordinating organisation in the field of recreation, but as one which touches industry probably at a greater number of points.

The Council was formed in 1935 at the instigation of the Ling Physical Education Association and the National Association of Organisers of Physical Education " to unite, and so strengthen, the efforts being made to develop physical activity among those over school age, with a view to improving the physical and mental health of the community. The need for such an organisation was quickly appreciated by the Government, who, before long, grant-aided the C.C.P.R. and so gave it their official blessing."¹

The definition of aims is quoted instead of being summarised, because in considering an organisation of this kind it is necessary to note the very far-reaching schemes that come within its terms of reference. The Education Act 1944, by not limiting the definition of " further education," has thrown its availability open to youths and girls, and to men and women of all ages. In some parts of the country " keep fit " classes for housewives are a recognised recreational development coming within the scope of teaching bodies such as the Central Council of Physical Recreation, while success has attended the introduction of similar courses for business men above the age of thirty. Particulars of these, where organised, can be obtained from the regional offices of the Council.

Shortly after its formation the Council consisted of eighty-four constituent members, representing governing bodies of sport, national educational societies and voluntary youth organisations. Membership since then has more than doubled, the expansion of the Council's work having greatly increased during the war as a result of the closing down in 1939 of the National Fitness Council which the Government had established two years earlier. The governing bodies of practically every popular sport in Great Britain are now in membership, as are all the principal youth organisations. This means that advice or

¹ *Physical Recreation Bulletin* C.C.P.R., June 1947.

training is available through the Council on any form of recreation. Organisation from the central headquarters is on a regional basis, the Civil Defence regions created in 1939 providing the general line of boundaries, while separate committees are in being in Scotland and Wales.

The Council's regional offices are therefore in close touch with local sports' associations and clubs as well as with local education authorities. Some sixty-five men and women fully qualified in physical education are on the permanent staff, distributed among the eleven regions, with a senior representative for men and another for women in charge of work for each region.

It should be pointed out here that the Council is not concerned directly with the provision of facilities, responsibility for which rests on the education authorities, or with the formation of clubs or groups, the majority of which are attached or affiliated to the voluntary youth organisations. Actually it should be regarded as a servicing and advisory body. The specific purposes for which it receives grants from the Ministry of Education and the Scottish Education Department include assistance in physical activity; the furtherance of the work of governing bodies of sports, games and outdoor activities; the organisation of training courses, demonstrations and conferences; the editing and publication of technical handbooks; and the promotion of physical recreation and training in factories. With regard to industrial activities the Council received a special grant from the Ministry of Labour and National Service during the war, as it was felt that much could be done through the Council to increase fitness and general alertness, thus removing a cause of accidents while reducing loss of production from absenteeism. The grant ceased necessarily in 1945, but was partly made up by increased grants from the Ministry of Education in order that progress in this direction should not be halted. Since then several large firms have entered into arrangements with the Council by which members of its staff are seconded for full-time work to their factories. In other instances, of which there are many, full-time or part-time organisers arrange courses in factories or put their services at the disposal of managements for short periods.

Apart from the full-time staff, part-time workers, fully qualified, are employed in the conduct of courses or the taking of particular classes. These men and women are given special training under the Council's auspices and subsequently pass a standardised national test, the aim of which is not to provide coaches in any one particular sport, but to develop the personality required of an instructor or leader, to foster an all-round knowledge of games and sports and to ensure special proficiency and ability to give capable instruction in several particular sports. Hundreds of courses are arranged annually for the training of leaders with a view to their passing the C.C.P.R. national test. It is likely, however, that the acute shortage of competent instructors in games and sports will continue to be felt throughout the country for some time to come, owing partly to the increased demand and partly to the restricted opportunities for training during the war.

In each region these trained men and women assist the organisation of weekly or less frequent classes for education authorities, youth clubs or factories, courses varying from "keep fit" exercises, dancing, minor games and gymnastics to outdoor sports and pastimes, such as cricket, football, climbing and camping. Courses are suited always to local needs. In addition, the Council maintains a national recreation centre at Bisham Abbey, on the Thames near Marlow, and plans, with the assistance of the National Sports Development Fund, to open similar centres as opportunity occurs. In 1947 it received a grant of £120,000 from the Million Pound Fund administered by the Prime Minister's Committee on behalf of the people of South Africa: the grant to be used for the establishment of a training centre in the North of England.

The training given at Bisham Abbey, while similar to that given by regional courses, is more concentrated, since those taking part are in residence for a week-end or for a week at a time. During the summer months holiday courses are arranged during which, in return for a fee of £3 15s. covering board lodging and coaching, young men and women can enjoy a riverside holiday while receiving general and individual coaching in several forms of recreation. A feature of these holiday courses is that guest coaches, usually champions or internationals, visit the centre to coach the holidaymakers.

The two series of holiday courses held in 1946 and 1947 proved to be remarkably successful, many more people applying than could be accommodated. Mrs. K. Menzies (Kay Stammers) and Mr. S. J. Wooderson were among those who attended as guest coaches. A typical report was for a week when the main subject of tuition was lawn tennis, and showed that while the holidaymakers ranged from novices to experienced players all learnt enough to be able to gain or increase an understanding of the game, in surroundings which encouraged swimming, boating, cycling and rambling, as well as dancing in the evenings.

Mention of holidays is relevant in a description of general training methods because a large proportion of the trainees came from industrial concerns and some attended at the expense of their managements in the hope that, in addition to the benefit derived from the holiday, the firms themselves would benefit by discovering potential leaders for work-time or leisure recreational training. In one region, the senior representatives, lacking a suitable building, decided to open a recreational training camp, for which three firms applied for an aggregate of 150 entries. Their object was not entirely philanthropic; the camping holiday had the appearance of a bonus in kind, but it was expected to assist the encouragement of sports and games among the personnel of the factories concerned.

That brings us from the external position of recreation in industrial welfare to a position actually within industry; to the plans made by the Central Council of Physical Recreation directly to assist the use of recreation as a means of promoting efficiency and checking accidents and avoidable absence

from work. Here as has been pointed out, many experiments have been carried out in recent years, and more and more attention has been given to the promotion of work-time courses.

Examples have been given to show the extent to which modern recreative training methods not only bring qualified coaching for leisure pastimes within the reach of all groups of people, but also have a direct bearing on work-time industrial welfare. Good health is a prerequisite of good work, so that money and encouragement devoted to the promotion of sports' clubs, dances and so on for personnel are obviously sound investments. But recreation can play an important part also in work-time, as firms have discovered when work-time breaks have been scheduled for recreative exercises and simple games. These must vary according to conditions of work and prevailing strains that should be eased. Nor are they effective if anything savouring of compulsion be introduced.

At industrial demonstrations given under the auspices of the Central Council of Physical Recreation, telling effect has been given to exercises designed to correct occupational strains. The cramped position in which a miner may have to work, for example, was shown in conjunction with the exercises and games that acted as a corrective. As a handbook issued by the Council says:

"It is already accepted . . . that rightly used feet and good standing and sitting positions affect the health and physical capacity of the worker, that good co-ordination and control are important factors in accident prevention, and that carefully planned exercises can offset the ill-effects of monotonous, cramping and one-sided work. . . . Further, during the war, purposeful physical training did much to ensure safe and yet rapid lifting and loading. There is, in fact, a growing conviction that the widespread introduction of work-time physical training will result not in a drop, but in an increase in output, by improving the general health and skill of workers and by lessening the likelihood of accidents."¹

In this connection, the views may be cited of the London Co-ordinating Committee of the Royal Society for the Prevention of Accidents, which has expressed, by resolution, the unanimous opinion that workers would be less prone to accident if given wise physical training with a view to improving their physical and mental co-ordination and control. The Research Board for the Correlation of Medical Science and Physical Education has adopted similar recommendations, advocating that specialists should be employed by industrial firms with a view to conducting training which will develop agility and help to decrease the number of accidents, and calling for continued research, particularly with regard to relaxation, remedial exercises, physical compensation and training in correct and economic movement.

¹ *Physical Education in Industry*. C.C.P.R., 6d.

GENERAL

It will be noted that a survey of industrial relations with non-industrial organisations, although by no means comprehensive, returns inevitably to work-time plans and policies; inevitably because all workers in industry, having independent personalities, differing aptitudes, and varying conditions of physical health, must be treated as persons and not expected to lay aside personality during working hours. Good health is necessary, but so is goodwill, and for that reason industrial welfare, on a basis of enlightened understanding, free from inquisitiveness, is neglected only by retrogressive firms. What men and women do in their leisure hours in no way concerns a management except in this respect: that if conditions of work and pay are just and considerate, and if influence can be exerted, on their behalf, to provide the amenities they rightly desire, the effect for good must be felt in the factory; negatively by the reduction of absenteeism and the number of accidents, positively by an improvement in output both in quantity and quality.

Thus time spent in listening to A's problems, which bear no relation whatsoever to working conditions, is justified by the effect of their solution on A's capacity or willingness to work. Similarly, B's desire to start a football club, which is best discussed when work is over, may have a bearing on his potential value to the firm; for the organisation of the club will prove or disprove that he has unsuspected talent for executive work and, if he succeeds, the benefit to health, and therefore to the work of his colleagues, will show itself in the working life of the firm.

For these reasons, reference has been made, even in some detail, to organisations that might not be called upon for information once in a dozen years by a Welfare Officer. Yet they have their place, however small, in the pattern that forms the background to his or her work. Probably that accounts for the fascination the work itself provides, a fascination that springs from the ever-changing moods, alarms, joys, problems and difficulties of the men and women who are our neighbours.

At the end of this chapter are listed some of the sources from which information or active co-operation can be obtained. The omissions may be thought to be glaring but at the same time they are inevitable. It is felt, nevertheless, that if used as a guide rather than as a directory, enquiry will lead in many cases to organisations or individuals not specifically mentioned. If the wise man is not the man who stores a vast accumulation of knowledge in his mind, but rather he who knows where it can be obtained, then this guide may be of service. Through separate sources of information it is intended to direct attention to the majority of active voluntary bodies in the nation.

EDUCATIONAL AND GENERAL ORGANISATIONS

Ministry of Education, Bel **quare, London, S.W.1 (Tel: Sloane 4522)**
London County Council **Officer), County Hall, Westminster Bridge,**
London, S.E.1 (Tel: Waterloo 5000).

In general, enquiries with regard to provisions of the Education Act 1944 or with a view to securing services or facilities under the Act should be addressed to the local education authorities concerned. Information with regard to these may be obtained from Municipal Offices or Town Halls.

Particulars may be obtained from the Education Office of the London County Council of the very wide range of evening classes and technical courses arranged in the London area. Although in other parts of England and Wales variations exist in the range and number of courses, *Floodlight* and other L.C.C. publications are to be recommended as illustrations of the general style of curriculum followed at the present time.

In Scotland, enquiries should be addressed to the Scottish Education Department, St. Andrew's House, Edinburgh 1 (Tel: Edinburgh 33433).

Family Welfare Association

Her Majesty Queen Mary is Patron of the Association, of which the Archbishop of Canterbury is President and Lord Malcolm Douglas-Hamilton, O.B.E., D.F.C., Chairman of the Council.

Head Office: Denison House, 206, Vauxhall Bridge Road, London, S.W.1 (Tel: Victoria 7334). General Secretary, B. E. Astbury, O.B.E.

District Committee Offices: 22, Cambridge Road, Bridge Road, Battersea, London, S.W.11 (Telephone: Battersea 1366); 7, Storks Road, Bermondsey, London, S.E.16 (Telephone: Bermondsey 2776); 10, Hoxton Square, London, N.1 (Telephone: Clerkenwell 3115); 35, Lyndhurst Way, Peckham, London, S.E.15 (Telephone: Rodney 3336); 21, Kempson Road, Walham Green, London, S.W.6 (Telephone: Renown 2127); 18, Deptford Broadway, London, S.E.8 (Telephone: Tideway 1983); 2, Homerton High Street, London, E.9 (Telephone: Amherst 2040); 214, Hammersmith Grove, London, W.6 (Telephone: Shepherds Bush 1652); 130, Station Road, Hendon, London, N.W.4 (Telephone: Hendon 9485); 59, Myddelton Square, London, E.C.1 (Telephone: Terminus 6577); 17, Compton Terrace, Islington, London, N.1 (Telephone: Canonbury 5215); 365, Camden Road, London, N.7 (Telephone: North 3651); 8, Kensington Park Road, London, W.11 (Telephone: Park 4070); 320, South Lambeth Road, London, S.W.8 (Telephone: Macauley 1308); 49, Rushey Green, London, S.E.6 (Telephone: Hither Green 1630); 179, Stanstead Road, London, S.E.23 (Telephone: Forest Hill 3389); 37, Sutherland Avenue, London, W.9 (Telephone: Cunningham 1211); 80, Charrington Street, Crowndale Road, London, N.W.1 (Telephone: Euston 1435); 173, Walworth Road, London, S.E.17 (Telephone: Rodney 3956); Marney Lodge, East Hill, London, S.W.18 (Telephone: Battersea 2311); 83, Cambridge Street, Warwick Square, London, S.W.1 (Telephone: Victoria 1701); Bernhard Baron Settlement, Berner Street, London, E.1 (Telephone: Royal 5101).

Affiliated Societies.—Societies affiliated to the Provisional National Council, Family Welfare Association, include the following:

Association for Improving the Condition of the Poor, ABERDEEN; the Central Aid Society, ACTON, LONDON, W.3; the Society for Social Service, AYR; the Centre of Social Service, BIRKENHEAD; the Citizens' Society, BIRMINGHAM; the Personal

Service Society, BLACKBURN; the Social Service Centre, BRIGHTON; the Central Aid Society, CAMBRIDGE; the Aid Society, CANTERBURY; the Borough Welfare Committee, CHESTERFIELD; the Guild of Social Service, CROYDON; the Personal Service Council, DAGENHAM and BECONTREE; the Family Welfare Association, DERBY; the Charity Organisation Society, DUNDEE; the Central Aid Society, EALING, LONDON, W.5; the City of Glasgow Society of Social Service, GLASGOW; the Central Aid Council, HASTINGS and ST. LEONARDS; the Central Aid Society, HIGH WYCOMBE; the Community Council, HULL; the Social Service Council, ILFORD; the Guild of Service, KENDAL; the Central Aid Society, KINGSTON-ON-THAMES; the Community Council of Lancashire, MANCHESTER; the League of Help, LANCASTER; the Charity Organisation Society, LEICESTER; the Personal Service Society (Inc.), LIVERPOOL; the Personal Service Society, MAIDSTONE; the City League of Help, MANCHESTER; the District Provident and Charity Organisation Society, MANCHESTER; the Community Council, MIDDLESBROUGH; the Association for Improving the Condition of the Poor, PERTH; the Civic Guild of Help, SOUTHEND; the Guild of Help, SUNDERLAND; the Guild of Social Welfare, WIMBLEDON, LONDON, S.W.19; the Family Welfare Association, WINCHESTER; the Guild of Social Service, WOKING.

Councils of Social Service in a number of cities and towns are among other affiliated societies.

The "Annual Charities Register and Digest" is published from the Head Offices of the Association, where also the Enquiry Bureau is established.

Addresses of societies listed above are obtainable from Citizens' Advice Bureaux or from the head offices of the Family Welfare Association.

National Marriage Guidance Council

The Headquarters of the Council is at 78, Duke St., London, W.1, to which all enquiries should be addressed. Local councils or panels are too numerous to be listed, but names and addresses of representatives in any given locality will be supplied on request.

Publication: Marriage Guidance, published from 78, Duke St., W.1, 10s. yearly for 12 issues.

Catholic Marriage Advisory Council

The Headquarters is at 38-39, Parliament St., Westminster, S.W.1, to which all enquiries should be addressed.

National Society for the Prevention of Cruelty to Children

Their Majesties the King and Queen and Her Majesty Queen Mary are Patrons of the Society of which H.R.H. Princess Elizabeth is President.

Headquarters: Victory House, Leicester Square, London, W.C.2 (Telephone Gerrard 2774).

Regional Offices:

BELFAST: 75, Upper Arthur St., Belfast (Telephone: 20381).

BIRMINGHAM: 105, Colmore Row, Birmingham, 3 (Telephone: Central 7495).

BRISTOL: 22, Park St., Bristol, 1 (Telephone: 20740).

DUBLIN: 20, Molesworth St., Dublin, Eire (Telephone: 61293).

LEEDS: 3, Oxford Place, Victoria Square, Leeds, 1 (Telephone: 21759).

MANCHESTER: 80, Corporation St., Manchester, 4 (Telephone: Blackfriars 0413).

SHEFFIELD: 44, Pinstone St., Sheffield, 1 (Telephone: Central 22845).

Particulars of the numerous other Branch offices will be furnished on request by the above offices or by the Headquarters of the Society.

Publication: The Child's Guardian, N.S.P.C.C. Thrice yearly, 2d.

“ BACKGROUND INFORMATION ”

National Council of Social Service

* His Majesty the King is Patron of the Council, of which Sir P. Malcolm Stewart, Bart., D.L., is President.

Headquarters: 26, Bedford Square, London, W.C.1 (Telephone: Museum 8944).

Secretary: G. E. Haynes, C.B.E.

Regional Offices:

BUCKS., BERKS., DORSET, HANTS, ISLE OF WIGHT: National Council of Social Service, Watlington House, Reading, Berks. (Telephone: Reading 2680).

GLOS., SOMERSET, WILTS., DEVONSHIRE, CORNWALL: National Council of Social Service, 77, Park Street, Bristol (Telephone: Bristol 26429).

DERBY., NOTTS., LINCS., LEICS., NORTHANTS., SHROPSHIRE, HEREFORDS., WORCS., WARWICKSHIRE, OXON., RUTLAND, SOKE OF PETERBOROUGH: National Council of Social Service, 19, Calthorpe Road, Edgbaston, Birmingham, 15 (Telephone: Edgbaston 3681).

CAMBS., ISLE OF ELY, HUNTS., BEDS., HERTS., NORFOLK, SUFFOLK, ESSEX: National Council of Social Service, Cambridgeshire House, 7, Hills Road, Cambridge (Telephone: Cambridge 56322).

YORKSHIRE: National Council of Social Service, 7-9, Mount Preston, Leeds, 2 (Telephone: Leeds 31892).

LANCS., CHESHIRE, WESTMORLAND, CUMBERLAND: Community Council of Lancashire, Selne House, Fallowfield, Manchester, 14 (Telephone: Rusholme 3366).

KENT, SURREY, SUSSEX: Rural Community Council, Old Bank House, Lewes, Sussex.

GREATER LONDON: London Council of Social Service, 7, Bayley Street, London, W.C.1 (Telephone: Museum 4864).

DURHAM AND TEES-SIDE: Community Service Council for Durham County, Hallgarth House, Hallgarth Street, Durham City (Telephone: Durham 755).

NORTHUMBERLAND AND TYNESIDE: Northumberland and Tyneside Council of Social Service, 17, Ellison Place, Newcastle-on-Tyne, 1 (Telephone: Newcastle-on-Tyne 21266).

SOUTH WALES: Council of Social Service for Wales and Monmouthshire, 118, Cathedral Road, Cardiff (Telephone: Cardiff 905).

NORTH WALES: Council of Social Service for Wales, 148, High Street, Bangor (Telephone: Bangor 526).

SCOTLAND: Scottish Council of Social Service, 10, Alva Street, Edinburgh, 2 (Telephone: Edinburgh 31852).

Citizens' Advice Bureaux

Addresses may be obtained from the National Council Offices listed above.

STANDING CONFERENCE OF WOMEN'S SOCIAL SERVICE CLUBS.—Enquiries should be addressed to the Secretary at the offices of the National Council.

STANDING CONFERENCE OF VOLUNTARY ORGANISATIONS.—Enquiries should be addressed to the Secretary at the offices of the National Council.

STANDING CONFERENCE OF NATIONAL VOLUNTARY YOUTH ORGANISATIONS (S.C.A.N.J.O.).—Enquiries should be made to the Secretary at the offices of the National Council.

CENTRAL CHURCHES GROUP.—Enquiries should be addressed to the Secretary at the offices of the National Council.

WOMEN'S GROUP ON PUBLIC WELFARE.—Enquiries should be addressed to the Secretary at the offices of the National Council.

HOLIDAYS GROUP.—Enquiries should be addressed to the Secretary at the offices of the National Council.

National Association of Boys' Clubs

H.R.H. the Duke of Gloucester, K.G., K.T., is President of the Association of which Lord Aberdare is Chairman. The Secretary is R. E. Goodwin, Esq.

The offices of the Association to which general enquiries should be addressed are at 7, Bedford Square, London, W.C.1. (Telephone: Museum 5357).

The club movement is organised throughout the country in a variety of ways, dependent upon local circumstances and historical reasons. Many clubs attached to the Y.M.C.A. are linked to the N.A.B.C. through the Boys' Department of the Y.M.C.A. Scotland has its own association which is affiliated to the N.A.B.C., while Wales has two organisations, one for North Wales, the other for South Wales.

The following list gives some addresses from which particulars of area organisations can be obtained:

BERKSHIRE: N. S. Goodridge, Esq., Bar Close, Henley Road, Caversham, near Reading.

BUCKINGHAMSHIRE: As for Berkshire.

CUMBERLAND: Cumberland and Westmorland Association of Boys' Clubs, 22, Penrith Road, Keswick, Cumberland.

DERBYSHIRE: Association of Boys' Clubs, Community House, 43, Kedleston Road, Derby.

DEVONSHIRE: Devon Association of Boys' Clubs, 133, Sweetbriar Lane, Exeter.

DORSET: Dorset Association of Boys' Clubs, 61, East Street, Blandford, Dorset.

DURHAM: Durham County Association of Boys' Clubs, 33, Norfolk Street, Sunderland.

EAST ANGLIA: General Secretary, N.A.B.C., 17, Bedford Square, London, W.C.1.

ESSEX: Essex Association of Boys' Clubs, 10, Crane Court, Chelmsford.

GLOUCESTERSHIRE AND HEREFORDSHIRE: H. E. Hall, Esq., 131, George's Road, Cheltenham, Glos.

HAMPSHIRE: As for Berkshire.

KENT: Kent Association of Boys' Clubs, 53, High Street, Maidstone.

LANCASHIRE: Lancs. and Cheshire Association of Boys' Clubs, Lune Mills, Lancaster; Liverpool Federation of Boys' Clubs, 13, Williamson Square, Liverpool, 1; Manchester & District Federation of Lads' Clubs, Gaddum House, 16, Queen Street, Manchester.

LEICESTERSHIRE: Cook Memorial Hall, Orchard Street, Leicester.

LONDON: London Federation of Boys' Clubs, 222, Blackfriars Road, London, S.E.1.

NORTHAMPTONSHIRE: E. R. Harding, Esq., Royal Chambers, 6, The Parade, Northampton.

NORTHUMBERLAND: Northumberland Association of Boys' Clubs, 70, Pilgrim Street, Newcastle-on-Tyne.

NOTTINGHAMSHIRE: Nottinghamshire Association of Boys' Clubs, 32, Park Row, Nottingham.

OXFORDSHIRE: The Secretary, Barnett House, Beaumont Street, Oxford.

SOMERSET: Lt.-Col. E. L. Ricketts, O.B.E., Territorial Hall, Burton Place, Taunton.

STAFFORDSHIRE: Staffs. Association of Boys' Clubs, c/o Lt.-Col. A. N. L. Harrison, Gaol Road, Stafford; Staffordshire Old Scholars' Association, County Education Offices, Stafford; Wolverhampton Council for Boys' Clubs, The Mount, Penn Road, Wolverhampton.

SURREY: J. Swailes, Esq., 42, Derek Avenue, West Ewell, Surrey.

SUSSEX: Sussex Association of Boys' Clubs, Col. J. R. Christopher, D.S.O., Collington Rise, Bexhill, Surrey.

WARWICKSHIRE: 5b, Dormer Place, Leamington Spa.

WORCESTERSHIRE: H. Douty, Esq., Colmore Chambers, 3, Newhall Street, Birmingham.

" BACKGROUND INFORMATION "

YORKSHIRE: Yorkshire Association of Boys' Clubs, 46, Park Square, Leeds, 1;
Sheffield Association of Boys' Clubs, 9, St. James Row, Sheffield.

SCOTLAND: Scottish Association of Boys' Clubs, 12, Alva Street, Edinburgh, 2.

SOUTH WALES: South Wales Federation of Boys' Clubs, 26, High Street, Cardiff.

National Association of Girls' Clubs and Mixed Clubs

Her Majesty the Queen is Patron of the Association of which the Duchess of Buccleuch is President. H.R.H. Princess Elizabeth is Vice-Patron.

Offices: 30-32, Devonshire Street, London, W.1 (Telephone: Welbeck 2941-4).

Regional Offices:

Names and addresses of Chairmen or Secretaries of the following associations may be obtained from the National Headquarters. In many instances this information will be obtainable from local education authorities.

Region 1:

DURHAM ASSOCIATION OF GIRLS' CLUBS
MIDDLESBROUGH UNION OF GIRLS' CLUBS
NORTH RIDING ASSOCIATION OF GIRLS' CLUBS AND MIXED CLUBS
NORTHUMBERLAND AND TYNESIDE UNION OF GIRLS' CLUBS AND MIXED CLUBS

Region 2:

EAST RIDING ASSOCIATION OF YOUTH CLUBS
HULL FEDERATION OF GIRLS' CLUBS
LEEDS ASSOCIATION OF GIRLS' CLUBS AND MIXED CLUBS
ROTHERHAM ASSOCIATION OF GIRLS' CLUBS
SHEFFIELD ASSOCIATION OF GIRLS' CLUBS AND MIXED CLUBS
WEST RIDING ASSOCIATION OF GIRLS' AND MIXED CLUBS

Region 3:

DERBYSHIRE ASSOCIATION OF GIRLS' CLUBS AND MIXED CLUBS
LINDSEY ASSOCIATION OF GIRLS' CLUBS AND MIXED CLUBS
NOTTINGHAM CITY ASSOCIATION OF GIRLS' CLUBS AND MIXED CLUBS
NOTTINGHAMSHIRE COUNTY ASSOCIATION OF GIRLS' CLUBS AND MIXED CLUBS

Region 4:

CAMBRIDGE AND COUNTY ASSOCIATION OF YOUTH CLUBS
NORFOLK AND NORWICH FEDERATION OF GIRLS' CLUBS AND MIXED CLUBS

Region 5:

LONDON UNION OF MIXED CLUBS AND GIRLS' CLUBS

Region 6:

BERKSHIRE ASSOCIATION OF GIRLS' CLUBS AND MIXED CLUBS
DORSET ASSOCIATION OF GIRLS' CLUBS AND MIXED CLUBS
HAMPSHIRE ASSOCIATION OF GIRLS' CLUBS AND MIXED CLUBS

OXFORD FEDERATION OF GIRLS' CLUBS AND MIXED CLUBS
OXFORDSHIRE ASSOCIATION OF GIRLS' CLUBS AND MIXED CLUBS
PORTSMOUTH FEDERATION OF GIRLS' CLUBS
READING ASSOCIATION OF GIRLS' CLUBS AND MIXED CLUBS
SOUTHAMPTON ASSOCIATION OF GIRLS' CLUBS AND MIXED CLUBS

Region 7:

BRISTOL AND DISTRICT ASSOCIATION OF GIRLS' CLUBS
CORNWALL COUNTY ASSOCIATION OF YOUTH CLUBS AND GIRLS' CLUBS
GLOUCESTERSHIRE ASSOCIATION OF GIRLS' CLUBS AND MIXED CLUBS
PLYMOUTH ASSOCIATION OF GIRLS' CLUBS AND MIXED CLUBS
SOMERSET ASSOCIATION OF MIXED YOUTH CLUBS AND GIRLS' CLUBS
DEVON ASSOCIATION OF GIRLS' CLUBS AND MIXED CLUBS

Region 8:

WELSH ASSOCIATIONS
NORTH WALES COUNCIL OF GIRLS' CLUBS AND MIXED CLUBS
SOUTH WALES AND MONMOUTHSHIRE COUNCIL OF GIRLS' CLUBS

Region 9:

BIRMINGHAM ASSOCIATION OF GIRLS' CLUBS AND MIXED CLUBS
STOKE-ON-TRENT COUNCIL OF GIRLS' YOUTH ORGANISATIONS
SHROPSHIRE ASSOCIATION OF YOUTH CLUBS
WOLVERHAMPTON ASSOCIATION OF GIRLS' AND MIXED CLUBS

Region 10:

BIRKENHEAD ASSOCIATION OF GIRLS' CLUBS AND MIXED CLUBS
BOOTLE ASSOCIATION OF GIRLS' ORGANISATIONS
CHESTER FEDERATION OF BOYS' AND GIRLS' CLUBS
LANCASHIRE ASSOCIATION OF GIRLS' CLUBS AND MIXED CLUBS
LIVERPOOL UNION OF GIRLS' CLUBS AND MIXED CLUBS
MANCHESTER AND DISTRICT ASSOCIATION OF GIRLS' CLUBS AND MIXED CLUBS
ST. HELEN'S UNION OF GIRLS' CLUBS AND MIXED CLUBS

Region 11:

SCOTTISH ASSOCIATION OF GIRLS' CLUBS
BORDER UNION OF GIRLS' CLUBS
DUNDEE AND DISTRICT ASSOCIATION OF GIRLS' CLUBS
EDINBURGH AND DISTRICT ASSOCIATION OF GIRLS' CLUBS
FIFE UNION OF GIRLS' CLUBS
GLASGOW AND WEST OF SCOTLAND ASSOCIATION OF GIRLS' CLUBS

Region 12:

KENT ASSOCIATION OF GIRLS' CLUBS AND MIXED CLUBS
SUSSEX ASSOCIATION OF GIRLS' CLUBS AND MIXED CLUBS
HOME COUNTIES ASSOCIATION OF GIRLS' CLUBS AND MIXED CLUBS
ASSOCIATION OF COUNTY CLUBS

"BACKGROUND INFORMATION"

Central Council of Physical Recreation

His Majesty the King and Her Majesty Queen Mary are Patrons of the Central Council, the President of which is the Right Hon. the Viscount Hampden, G.C.V.O., K.C.B., C.M.G. Mr. S. F. Rous, C.B.E., is Chairman of the Executive Committee.

Headquarters: 6, Bedford Square, London, W.C.1 (Telephone: Museum 0726).
Secretary: Miss P. C. Colson, O.B.E.

Regional Offices:

NORTHUMBERLAND, DURHAM, NORTH RIDING, YORKS.: C.C.P.R., 16, Market Place, Co. Durham (Telephone: Durham 1164).

WEST AND EAST RIDING, YORKS.: C.C.P.R., 61, Albion Street, Leeds (Telephone: Leeds 21320).

DÉBY., LEICS., NORTHANTS., RUTLAND AND SOKE OF PETERBOROUGH: C.C.P.R., 11 and 16, Gordon House, Carrington Street, Nottingham (Telephone: Nottingham 2831).

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RECRUITMENT AND INDUCTION

By H. A. Goddard

IN these modern days of huge industrial organisations and gigantic Trade Unions, we are apt to forget that the true basis of a master/servant relationship is one of personal contact. However efficient our Personnel Department may be, however comprehensive its records and histories, it is only a substitute—and sometimes a very poor substitute—for the face-to-face relationship which used to exist between “The Boss” and his workers.

To begin with, the factory unit was in those days so much smaller that it was an easy matter for the owner of the business to know each employee by name. If he was a good employer, his interest often went beyond the bounds of the business and manifested itself in a genuine solicitude for the personal and domestic affairs of the employee and his family. Even if he took no interest beyond seeing that they did their work properly, the relationship was still one of personal contact. He knew them and, what is more important, they knew him. His virtues and vices were an open book to his employees, who could predict to a nicety how he was likely to react to a given set of circumstances.

Many present-day firms owe a large measure of their success to the personality of the original founder. Nowadays, however, the personal contact has gone and the human figure of “The Boss” has in most instances been replaced by those remote and intangible bodies, “The Board” or “The Management.” The result is that the worker is apt to ascribe all his grievances, real and imaginary, to the machinations of an anonymous “they,” thus laying the foundation of a feeling of frustration which, if not countered in the early stages, will grow until it warps his entire outlook. Even such a vital matter as giving instructions is often carried out in such an impersonal manner that we can readily understand Mary Parker Follett’s dictum that “the strength of favourable response to an order is in inverse ratio to the distance it travels.”¹

If, as seems possible, the future trend is towards nationalisation of our industries with Regional Boards and the inevitable network of bureaucracy, the personal contact will become even more remote, and clearly some substitute will have to be found.

¹ *Dynamic Administration—The Collected Papers of Mary Parker Follett* Edited by Metcalf and Urwick.

PERSONAL CONTACT

It is in this sense that the place of the Welfare Officer in the personnel function of management is so important. There is in some quarters a tendency to distinguish between what is called personnel management on the one hand and welfare work on the other, and many employers have an idea that the word "welfare" is synonymous with philanthropy and good works. They feel that the provision of welfare schemes in the shape of canteens, sports grounds, benevolent funds, holidays and the like is a rather pleasant way of absorbing the surplus profits, and that by giving the workers these facilities they are making sure of a good industrial relationship.

Nothing could be farther from the truth. The provision of welfare schemes is not of itself a solution to any industrial problem, and welfare work as such is only valuable when it fits in and balances with the planned policy of the company. That policy should be designed to integrate the functions of Welfare and Personnel. Unless these go hand in hand, there will be a danger that both management and workers will come to regard the Personnel Manager as a technician concerned only with hiring labour and keeping records, while the Welfare Officer will be looked upon as an amiable gentleman who arranges entertainments, sports and social events.

The first vital point in every personnel programme is to recruit labour, and in this task the Welfare Officer has a very important part to play. Before that part as described, however, it is perhaps necessary to point out that throughout this section the words "Welfare Officer" refer to a function and not necessarily to the individual.

In the large organisation where duties are specialised to a degree, it may be that half a dozen individuals are involved—e.g. Induction Officer, Sports Secretary, Training Officer, Apprentice Master, etc.—while in the smaller firm the Welfare Officer carries out all these duties or, indeed, he may even be Personnel and Welfare Officer combined.

The actual place of the Welfare Officer in the hierarchy of the firm and his position *vis-à-vis* the Personnel Manager is of secondary importance provided it is realised that it is the welfare function in the duties of labour recruitment and selection which is being discussed.

It has been stated that "recruitment is a positive function of which the negative counter-part or complement is selection."¹ In other words, recruitment seeks to make available a supply of potential workers; selection taps that supply and chooses from it those who are likely to succeed on the job.

Job Analysis.—If selection is going to be sound, it is obvious that a great deal has to be known about the job itself before a decision can be reached. The Labour Department must be in possession of a complete description of the job, what type of worker and what personal qualities are required, and how these are related to each other.

¹ See *Personnel Management and Industrial Relations*. Dale Yoder.

Modern industrial practice demands a knowledge of the technique of job description and job analysis, and although it is true that some sort of job description must be in the mind of every employer when he engages a worker, it is only during the past few years that it has been recognised that something more than the bald title of a job is necessary if the best results are to be obtained. A complete survey of job description and job analysis would be a very lengthy affair and such is not called for here. It is, however, necessary to glance at the main factors which are taken into account in order that we can clearly recognise those which come within the welfare function, and for which the Welfare Officer, even if he does not actually compile them, should be responsible.

Generally speaking, in completing an accurate job description two main principles have to be borne in mind. The first is to describe the actual nature of the work, and the second to indicate the type of worker most suited for the job. The information regarding the nature of the work usually comprises a complete detailed description of the job to be performed, together with a statement as to tools and machinery involved and the materials used. If special training is required, a note of this is included, together with any peculiar conditions of employment, such as extreme heat or cold, or liability to a particular occupational hazard. The position of the worker—whether standing, sitting or walking about—should also be noted, and the relationship of the job to others in the same department.

These are technical details and are supplied in the first instance either by questioning the worker on the job or obtaining them from "supervision." The Welfare Officer has no immediate concern with these details, but he has a very definite responsibility as regards the second factor, and his advice and co-operation can be invaluable to the Personnel Officer in determining the type of worker best suited for the job. The data usually provided by the job description can be listed as follows:

1. *Sex of Worker.*—Here should be given also the age bracket and the age desired. The reason for the two ages being shown is that while it may be practicable to have workers of any age between the brackets employed on the job, when it comes to recruiting there may be reasons why a specific age should be given. Training required, adaptability and many other factors enter into this, and therefore a suggested recruiting age should always be shown.

In certain cases, too, marital status should be specified. It may be that a married woman is required for a job, and in that case a special note should be made.

2. *Physical Characteristics.*—A whole host of different requirements come under this heading. Examples are height, weight, eyesight, hearing, strength or any special dexterity which may be required. Sometimes it is necessary for a worker to be ambidextrous, sometimes hand-and-foot co-ordination is required, and it is therefore very necessary that these should be noted.

3. *Mental Abilities.*—These include intelligence, reasoning, number facility, vocabulary, perception, memory and visualising ability.

4. *Temperament.*

5. *Education.*

These main factors go to make up the “personal qualities” assessment, and the welfare function can be exercised firstly by observing and conducting experiments on the job, finding out from the workers themselves “where the shoe pinches” and then formulating selection tests to be administered to prospective applicants. Obviously, where a Medical Officer is appointed by the firm his co-operation should be invoked, and as regards physical characteristics it will be his job to set standards for each job to which he can refer when giving a prospective employee a physical examination.

The recent war taught personnel management a number of lessons, not the least that it does not follow because an individual is not physically fit that he or she is incapable of doing a good job of work. There is always a tendency on the part of Medical and Safety Officers to set a high physical standard, since they are naturally anxious for a clean bill of health for the factory and a low accident record.

In these days of labour shortage, however, it is more than ever necessary to make the best use of all available labour, and the Welfare Officer should make a special point of scheduling all jobs which can be adequately filled by the less fortunate members of society. In this respect the Disabled Persons Employment Act 1944 has done a grand job of work. The Act imposes a statutory obligation on employers with more than twenty persons on the payroll to give employment to a quota of 3 per cent. registered disabled persons. It has been found in practice that the majority of these can be absorbed into worthwhile jobs and not—as in the old days—relegated to such occupations as lift attendants, watchmen and timekeepers.

Even if it means some slight adjustment to a machine or a small deviation from programme, such arrangements are well worth while if they result in a disabled person accomplishing a real production job. The uplift to the individual’s self-respect is tremendous.

Whilst on the subject of disabled persons it must be noted that an employer is obliged by law to keep a register of disabled persons employed, and although this record will be compiled and kept by the Personnel Records Department, a duplicate should be in the possession of the Welfare Officer. To him it should be something much more than a list of names and departments. A full history of each case should be recorded, and from time to time the Welfare Officer, or someone on his behalf, should visit each individual and check progress actually on the job. This is very necessary, as there is always a fear that in his zeal to prove himself, the disabled person may actually be attempting too much and may even be doing himself actual harm.

A great deal of tact is necessary in these periodical checks and they should be kept as informal as possible. The Welfare Officer will find that in these

contacts he will establish a relationship which he could never hope to get in his own office.

Selection Tests.—Under the heading “physical characteristics,” mention was made of special dexterities which might be required. Obviously, new workers cannot be expected to possess a dexterity which might call for a considerable amount of training, and the method employed is to administer a selection test designed to weed out the obviously unsuitable, so that there shall be as little time wasted as possible in the training period. A variety of these tests can be purchased, and if they do not quite fill the bill it should not be beyond the ingenuity of the Welfare Officer to invent or adapt one to his own needs.

If at all possible, the Welfare Officer should be the person to administer these selection tests, as, apart from the valuable information which is gained from them, he is at the same time setting up a relationship between the company and a prospective employee; and the future attitude of that employee may be fashioned in no small measure by this initial contact.

Other selection tests which can properly be allocated to the Welfare Officer are those relating to intelligence. These tests are comparatively easy to administer and score, but it is not so much in that sense that he is concerned as in the actual Intelligence Quotient fixed for a particular job. Many firms who use intelligence tests fix a minimum “I.Q.” for each job and lose sight of the fact that it is just as necessary to fix a maximum. It is just as important to see that a worker is not too intelligent for a job as to make sure that he or she is intelligent enough. If the applicant has a much higher I.Q. than the job rates, there is a danger that he will suffer from boredom. This in turn may lead to a feeling of frustration, which is the finest breeding-ground of industrial discontent.

It is, however, in the field of temperament that the Welfare Officer is particularly useful. This question plays a far greater part in the working life of an individual than many people realise. Some of us possess a highly developed team spirit, others are individualists. One type of mind falls readily into mass-produced activity or repetition work which to another would be just a soul-destroying job. These and other predominant characteristics are fairly easy to discover in the course of an informal interview, and the Welfare Officer is the person best fitted by training and experience to elicit the type of information required.

Many people consider that the purpose of an interview is to find out facts about the applicant; actually, all the facts required can be ascertained much more easily by the use of a well-planned application form, which can be filled in by the individual at his leisure. The real purpose of the interview is to endeavour to form a balanced judgment of the potentialities of the individual for the job under review and to compare them with other applicants. It is therefore advisable for the interview to be conducted by at least two interviewers. However much we may pride ourselves on complete impartiality,

it is very difficult not to let little prejudices creep in. Our applicant may, for example, wear brown boots with a blue suit. This offends our aesthetic taste and quite unconsciously we find ourselves hardening in our attitude towards him. If, however, the interview can be conducted separately by two people—say, the Labour Officer and the Welfare Officer—and the assessment of each compared, a much fairer and balanced judgment will result.

It is not the purpose of this section to discuss interviewing technique. Many excellent books have been written on the subject, and it is in the firm's own interests to see that all who conduct interviews on its behalf in whatever capacity should be skilled in this art. From the point of view of the new employee it is of primary importance, because it is his first contact with the firm and his opinion is inevitably coloured by that initial impression.

Recruitment of Juveniles.—It will be seen that the welfare function is ever present during the recruitment stages of adult workers, but there is another field in which the Welfare Officer can play a most important part. This is in connection with the recruitment of juveniles, and much good work can be done by effective liaison with schools, colleges, youth organisations and the juvenile department of the Ministry of Labour. The Welfare Officer should be prepared to spend quite a portion of his leisure time in making contacts which will help to sell his organisation to the young entrants to industry. Most Labour Exchanges have a juvenile advisory service, and the Welfare Officer will always be welcomed as a member of an advisory panel which meets periodically to give advice on careers to school-leavers. Talks to technical and public schools, and arrangements for factory visits, also come within his scope, and a great deal of valuable missionary work can be done in this way. With the raising of the school-leaving age the competition for young workers is already getting very keen, and the wise Welfare Officer has already made it his business to present his firm to the youth of the district in a favourable light.

Induction.—After the new worker has been through all the preliminary tests and selection procedure, he is finally engaged and the next important phase is that of inducting him to his new job. Before I proceed to describe the technique of induction, I should like to tell how one company was converted to an appreciation of its value. Before the war the number of women employed at this factory was negligible, but with the call-up of the younger age-groups and the rapid expansion inside the factory to a variety of different war contracts, it became imperative for women to be recruited in large numbers. Experience of women labour was not great so it was decided that it would be good policy to get them acclimatised to factory life under the most agreeable circumstances. Accordingly two women Welfare Officers were engaged.

One was a trained psychologist, a married woman with two children and a husband in the Forces. Her background made her particularly acceptable, since she was able to meet young mothers whose husbands were in the Forces,

as it were, on their own ground. The other girl had been with the company all her working life and was promoted from the ranks because of her exceptional ability. She, too, proved acceptable, since there was not a job of work upon which women were employed which she could not herself do, and the fact that she had actually worked at the bench gave her that understanding which only a day-to-day knowledge could acquire.

No attempt at induction as we understand the word now was made. All the Welfare Officers did was to welcome newcomers, fit them out with cap and overall and introduce them to their jobs. Every day for the first three weeks each newcomer was visited by one or other of the Welfare Officers. These visits were of necessity brief, but they established a very valuable relationship. Complaints and queries were settled on the spot without the nerve-racking experience of having to go out of the familiar environment of the shop.

The process of settling down was effected very rapidly, and there is no doubt that the care and attention paid in the reception of newcomers to the factory was reflected in an amazingly low absentee rate. As one of the girls put it: "We felt that we belonged, right from the start."

The success which followed this experiment made the management feel that it was worth doing for all employees, and from what was purely a war-time measure has grown the elaborate induction scheme now in use.

There is, of course, nothing magical about induction. Indeed, there is nothing original about it, and like most good ideas it is simplicity itself. The word "induction" has a number of meanings, but in the sense in which we are using it, it means "a beginning"—"a preliminary measure"—that is to say, a process which takes place before the actual job of work begins, designed to make that job easier and more acceptable.

There is no actual need for a firm to insist on an induction period, and it is quite possible for an individual to go straight on to a job and both find and give satisfaction. But for every individual who can do that, there are ninety-nine who require some form of adjustment to a new environment. Whether they are children from school, or seasoned industrial workers, they have to re-orientate themselves, and induction is designed primarily to make that process easier.

There is also another highly important aspect of induction. Much has been written about the urgent need for increased productive effort, and it is only now being realised that the old incentives for man to work harder no longer operate. The fear of the sack, which for generations has acted as a spur, is no longer a potent factor, since there are more jobs available than men to fill them, and although financial rewards have been tried, they do not appear to have been any more successful. What, then, can be offered as a positive solution to a problem which fear and greed, each in turn, have failed to solve?

The answer surely lies in establishing in each individual an identity of

interest with the undertaking for which he works. Lieutenant-Colonel L. Urwick, in an address to the Institute of Personnel Management in September 1943, pointed out that the purpose of industry, which is to serve the community by making and/or distributing goods and services which the community needs, effectively and economically, can never be achieved without the full collaboration of all those engaged in it. "Before we can win that collaboration," Urwick says, "the individual employee must be able to find in the work of the undertaking a cause to which he can give active allegiance." This identification of the individual with the purposes of the group in which he works is of prime importance, but as Urwick rather sadly remarks, "I am doubtful if we have begun to scratch the surface of how to achieve this identification, particularly of how to use modern methods of developing in large numbers of people the sense of emotional unity with the group in which they work, of making them appreciate the exciting, stimulating reality, when properly understood, of what the group collectively is trying to do."

During the war this principle was tried out in a rather halting way, and groups of workers were sometimes taken to aerodromes or military camps there to see, as a completed whole, the aircraft or tank in the construction of which their own efforts had been responsible for a certain proportion. From personal experience I can say that these visits were highly successful, in that they gave a tremendous stimulus to production.

Now, in peace-time, we cannot appeal to the emotions in quite the same way, but we can make a real attempt to arouse the interest and enthusiasm of each employee, we can make him feel that he is part and parcel of the organisation—one of a community—not just a wage-earning unit. I expect most readers will be familiar with the story of the three labourers who were quarrying stone. On being asked what they were doing, the first replied that he was breaking stones, the second that he was earning a shilling an hour, and the third answered that he was building a cathedral!

If the aims of the undertaking can be presented in such a manner as to evoke enthusiasm, then there is immediately an incentive to work, and it is in this sense that the value of correct induction lies.

Since induction is also designed to give the new employee all the information he is likely to want about his job, it is essentially the sphere of the Welfare Officer, and it should be his responsibility to plan a suitable type of induction for each grade and age-group of employee. Once the procedure is laid down, it should be adhered to strictly. This warning may appear unnecessary, but experience has shown that departmental heads urgently in need of labour are apt to clamour for the workers to be sent to them immediately and invariably make the suggestion that induction can be carried out when they are "not quite so busy." This, of course, would be fatal and, however pressing the demands for labour, it will be found that in the long run the time spent on induction will be amply repaid.

Essential Points.—Methods of induction vary considerably according to

the type of business, but there are certain points of information which are common to all of them. These can be summarised as under:

1. *History of the Company.*—Induction should always begin with a short history of the company. If it is part of a large organisation, the relationship between the various branches and associated companies should be fully explained. For the benefit of employees who are being reinstated from the Forces, a short account of the war-time activities of the firm will be found to be of great interest. Post-war markets and conditions can then be briefly reviewed and the prospects for the future discussed.

Give the new worker an idea of the future aims of the company so far as extension of trade and the capture of new markets are concerned. Let him feel that he is vitally concerned in these plans, and they become his goal well. People like to be proud of the group to which they belong, and the seeds of pride in the company and its products, sown in this way, will bear a good harvest.

Reference should also be made to the industry in which the company is engaged, its part in the economic structure of the nation, the value of export trade, if any, and generally an attempt to make the new employee realise that he is embarking on a really worthwhile job, and that however small a part he may be performing it is nevertheless an important one—one upon which the success or otherwise of the business depends. It may be argued that this "historical" information is only possible in the case of old-established companies, but such is not the case. It is just as important for the owner of the one-man business engaging his first employee to give that employee some idea of the reasons which prompted him to go into business, what he hopes to achieve, and what service he has to offer to the community.

2. *'Who's Who' in the Company.*—The newcomer will naturally want to know something of the management of the company, the names and functions of the principal officials and others with whom he is likely to be concerned in the course of his employment. If there is a "family tree," this should be explained with a brief description of the sphere of responsibilities of each official, but it is unwise to burden the newcomer with overmuch detail at this stage. Of much more use is a little card containing the names and telephone numbers of such officials as Works Medical Officer, Safety Officer, Cashier, Welfare Officer and others whom he may wish to consult.

The hierarchy of his own particular department will be explained to him when he is taken over by his immediate supervisor.

3. *Employee Amenities.*—Most firms of any size issue a handbook to new employees giving full particulars of all the amenities and welfare services which are provided. Most of these are very attractive productions and contain a wealth of information *if they are read*, but therein lies the difficulty. Too often they are given a casual glance and then put away to be read at a later date which, in fact, never materialises.

It is sound policy to go through the more important items, such as

Canteens, Sports Clubs, Sick and Benevolent Funds, Profit-sharing Schemes, Pensions and the like, making sure that any special provisions or qualifications are carefully explained. It will be found that the discussion and amplification of the particulars described does create a real interest in the handbook, which can then fulfil its proper purpose. The same remark applies to Health Services and Safety Precautions. There are always a number of "DO's" and "DON'Ts" relating to health, hygiene and accident prevention, and they are more thoroughly appreciated and therefore stand a better chance of being obeyed if some trouble is taken to explain the reasons behind them.

4. *Information Service.*—This is a most important section, as although the new employee will have assimilated quite a lot of information, there are bound to be questions which will crop up during his first few weeks, and he will feel much more at home if he knows just to whom he should apply for information on such matters as wages queries, income tax, leave of absence, etc.

Particular emphasis should be laid on the fact that the Welfare Department exists for his benefit, and should he be troubled by a problem, whether domestic or in the factory, advice and assistance will be given by that department.

This question of assistance in the personal problems of individuals is one which is sometimes looked upon with misgiving by employers, who are apt to talk about "spoon feeding," but it will be found to be of immense value in building and maintaining morale, if conducted on the right lines. The Army has a saying that a soldier with an unhappy home life is a bad soldier, and that saying is just as true of the industrial army.

People should therefore be encouraged to bring their problems to the Welfare Department, whose motto should always be: "If we don't know the answer we will soon find it for you."

It should also be recognised that people applying for permission to visit the Welfare Department need not disclose the nature of their business. This does not mean that they can visit the department at will. Works discipline must be maintained and permission from the foreman to leave the shop must always be obtained first, but in granting that permission the foreman should have no right to enquire the reason for the visit.

From the Welfare Officer's point of view it may not appear to be particularly inspiring to have to listen to a recital of family ill health, housing troubles or domestic strife, but there is no doubt that it has a tremendous effect in the long run. Quite often the most the Welfare Officer can do is to offer a few words of sympathy, but even then it must not be assumed that he has failed, for the chances are that the individual will be all the better from the mere fact of having told someone all about it.

During the induction period it should therefore be impressed on the newcomer that there is someone to whom he can go if in trouble; and that "someone" is naturally the Welfare Officer who is inducting him, with whom he has already established a friendly relationship.

5. *Personnel Policy*.—It is most important that a company's personnel policy should be properly explained at the start. The time thus spent will obviate the chances of misunderstanding and disagreements at a later date. If a book of works' rules is published, now is the time to bring it out and go through it with the new employee. Adult workers have probably already had experience of works' rules, and it is therefore more than ever necessary to make sure that they fully understand and appreciate any regulations peculiar to the company. There is always a danger that they will take the rules as read, relying on their former experience. It is not unusual to find ignorance pleaded when a breach of regulations has occurred, even when a printed book of rules has been handed out. The new employee should also be told the company's attitude towards trade unions and what methods are employed for negotiation and joint consultation throughout the factory. The ordinary working routine—i.e. starting and stopping times, methods of time recording, shift systems and meal breaks—is also explained, and any agreements regarding overtime, holidays with pay, or profit-sharing are detailed.

6. *The Employee's Job*.—It is almost certain that the new employee will already have met his immediate supervisor in the course of the engagement procedure, but that does not absolve the inducting official from the task of actually taking him to his new department and handing him over to the foreman.

The latter should then take charge and introduce the newcomer to his charge-hand, his shop steward or other employee representatives, and, if possible, his immediate workmates. In some companies the "sponsor" system is in vogue. Here the new worker is taken in hand by another employee, usually one well acquainted with both work and workers, and it is left to the sponsor to see that the newcomer is shown the ropes. While this system may have a great deal to commend it, in that the sponsor is himself one of the group and thereby able to see that the introduction is a real one, it has certain disadvantages. If the sponsor is engaged on a production job himself, it is obvious that the job will suffer while he acts as "bear leader," and there is the further point that unless the sponsors are most carefully chosen and are able to interpret the policy of the company properly, there is the danger that incorrect information be given and thereby more harm than good result.

Once the introduction to the department has taken place, it is the foreman's job to see that the worker is made to feel at home, and to that end instruction should always be given to foremen and supervisors in

In addition, foremen should particularly stress the fact that inside the department it is to them that all enquiries should be addressed. If a newcomer wants information he should get it from the foreman, not from another employee. But to assist in this instruction being carried out, the foreman must above all things be approachable, and employees should be

confident that they will get a kind and courteous reception from him, otherwise they certainly will not obey this rule.

Method of Presentation.—So much for the content of information. Now for the actual method of presentation. It is obvious that the field covered in the foregoing points is so great that to expect any employee to assimilate it in one session is out of the question. Certain of the information, such as working routines and procedures, will be given when the actual engagement is made—that is to say, when the employee “signs on”—because this is in effect part of the contract of service. The employee is then told to report at a certain time on a given day, and it is on that first day that the greater part of the induction is given. The first stage is the introductory talk by the Welfare Officer, and the method of procedure is as follows.

New employees are met and welcomed, and if there is a large number to be inducted, small groups of about a dozen individuals are made up. The small group is much more effective, as not only is it more easily handled by the instructor, but the individual who would hesitate to lift up his voice in a large group is quite at home and soon asking questions when seated with a few others round a table. Incidentally it is a good plan to have every senior member of the personnel and welfare staff trained to give the introductory talk, as in times of a large influx of labour they will all be able to take part and thus speed up the proceedings, bearing in mind that the ideal is to get the worker on to his job as quickly as possible.

At all costs the classroom atmosphere should be avoided and the proceedings made as informal as possible. The induction talk is not a public address, and workers should be invited to ask questions freely as they occur to them during the talk and not wait until the end when they may quite easily have forgotten the point they wished to raise. This means that the instructor has got to be on his toes all the time and he must know his stuff intimately. If he treats it as “patter” and reels off his lines accordingly, he will be put out of his stride by the unexpected question, and an artificial atmosphere will be produced.

The keynote of the whole process is simplicity, and the talk should be delivered in an easy and natural manner. After this initial talk, which should not take more than an hour, there should be a break, and if the canteen is in the vicinity, the opportunity should be taken to enjoy a cup of tea or coffee and perhaps explore at first hand the feeding arrangements. It is a great mistake to try to cram all the talking into one period. The newcomers are industrial workers, not students, and any attempt to give them too much information at a time will only result in mental indigestion.

After the canteen interval, a tour of the factory is indicated, and in no circumstances should this be omitted. The object of the tour is to give the employee a complete picture of what is happening in the factory as a whole. Quite recently a returned soldier said to me: “I worked at this factory for five years prior to the war but I had no idea it was such an

interesting place." Of course he had not. Apart from his route to bus and canteen, his knowledge of the factory was confined to his particular department, a state of affairs which at best produces a purely parochial and would certainly never enable him to identify himself with the purpose of the factory as a complete unit.

During the tour the opportunity should be taken to point out the whereabouts of such important sections as Wages Department, Cashier, Savings Bank, Social Club, or any other high spot which the employee is likely to want to visit at a later date. It may also be found possible to include brief talks on health, hygiene and safety *en route*. For instance, the Works Medical Officer or Industrial Nurse could give a little talk while the medical or first-aid department is actually being visited, while the Safety Officer could dilate on the use of safety devices and precautionary measures in a convenient part of the factory where demonstrations would do far more than a class-room lecture. This, however, can only be done if the ground to be covered is small.

There is a further disadvantage that the officials in question may not always be on tap, and on the whole it is perhaps preferable to have these very important subjects dealt with entirely separately. Indeed, some Safety Officers prefer to visit each individual on his job and give him a few minutes' specialised instruction as to the hazards of his own particular work in addition to the more general safety rules.

In so far as safety is concerned, individual instruction is infinitely preferable to group lectures, and it has the added advantage that each individual comes under the eagle eye of the Safety Officer, who is always on the look-out for indications which may point to an employee being "accident prone."

Works tours are exhausting, and care should be taken to see that the newcomers are not overtired, otherwise interest will flag. Many companies have as part of their advertising programme special films dealing with the manufacture and distribution of their products, and it is a good idea to have a short break in the tour while a selected programme of films can be shown.

If the factory is a big one, the induction talk and works tour will have taken up most of the day, and the last phase should be the introduction of the employee to his own department. By the time he gets there his initial shyness will have disappeared, he will already be reacting to the atmosphere which has been created and he will be ready to tackle his job secure in the knowledge that he is working with people who are helpful and friendly.

THE YOUNG WORKER

It has already been pointed out that a different form of induction should be used for young persons. The procedure outlined above is designed for the typical factory worker, and with the possible exception of medical and safety talks can be completed on the first day. A slightly different technique,

however, is necessary for young persons, since the chief object is to initiate them into an entirely new environment. The adult worker has usually some knowledge of the industrial world and the atmosphere of the workshop is familiar; with the young worker, however, it is a complete change from his former surroundings and, however keen and eager he may be, it is bound to be a little frightening at first.

Particular care and attention should therefore be given, and the process made a much more gradual one. It is not likely that his services will be of such vital importance that he cannot be spared from his department for a short period each day for the first two or three weeks, and during that time the necessary information and instruction can be administered in small doses. The Welfare Officer will be able to tell by these daily contacts whether the youngster is settling down as he ought, and if anything is wrong he will be able to put matters right at the start and perhaps save a lot of unhappiness.

In the past, the transition from school to industrial life has been rapid, but the provisions of the 1944 Education Act will make the change-over a much more lengthy process, since among other things the Act requires the release for further education of all young people in employment, from school-leaving age up to eighteen, on one day per week for forty-four weeks in the year. It will thus be much easier to co-ordinate the induction process, since for a time the young employee will be an inhabitant of both worlds—educational and industrial.

Examination of the Induction Syllabuses compiled by a number of firms reveals that there is a wide difference of opinion as to what constitutes induction and what training. Courses ranging from three weeks to as many months are labelled "Induction" courses when they are in reality training programmes.

Induction, as I have endeavoured to show, is purely introductory, and once that introduction is effected, subsequent activities should properly fall under the heading of "further education" or "training." This is particularly true of the young worker, who should receive both education and training long after his induction is complete. This does not, however, mean that he is of no further interest to the Welfare Officer. On the contrary, that officer has a special responsibility towards all young workers, to whom he should be a "guide, philosopher and friend." He should make it his business to see that all juvenile employees are given plenty of opportunity to grow in stature both physically and mentally.

Encouragement to take part in games and recreations should be given and facilities provided by the company for that purpose. If it is possible, a short period of P.T. under a competent instructor should be given each day, and a gymnasium for evening use, where boxing and gymnastics can be properly taught, is a profitable investment. Adequate nutrition during adolescence is an essential foundation for good health in later years, and it is gratifying to note the ever-increasing number of firms who supply a full

- midday meal for juveniles at a reduced price. This again is a function of the Welfare Officer, who should be responsible for the efficient working of any scheme which the Directors decide to install. In this respect, Welfare Officers are advised to take precautions to see that only meals are issued against juvenile tickets, as cases have been known of tickets being exchanged for lemonade, buns, and even cigarettes, thus defeating the whole purpose of the scheme. Adequate co-operation with the Canteen staff is necessary to ensure the smooth running of such a scheme. It is the considered opinion of many of the biggest industrial organisations that the cost of subsidising juvenile meals is trifling compared with the certainty that these young people are getting adequate nutrition at the most important period in their lives. It is to be hoped that the health of the next generation will benefit accordingly.

So far as the juvenile's mental outlook is concerned, such activities as debating clubs, dramatic societies, youth parliaments and discussion circles should be encouraged to the full. I have found, however, from experience that, unlike the physical amenities, it is a mistake to have these "laid on." They should arise from a spontaneous desire on the part of the individuals who wish to indulge in them, and even if that spontaneous desire is prompted a little by the Welfare Officer, it is a sound principle for juveniles to initiate their own cultural activities rather than be organised out of existence.

Liaison with the various youth organisations in the neighbourhood is also an essential part of the Welfare Officer's job, and membership of the local Youth Committee will bring him many valuable contacts.

Where a social club exists in connection with the factory, it may be helpful to have a junior section where indoor games can be played, but it is much better for it to be housed in a separate building, as even in the best-run club the atmosphere of licensed premises is usually present.

THE INDUCTION CENTRE

There is another type of induction which is worthy of description, but it is only possible for it to be practised in the large organisation where the intake of new workers is fairly constant. The method used is to set aside one workshop, which is called the Induction Centre, and use it for the reception of new workers. According to the type of work done in the factory, the Centre is furnished with the appropriate machines, plus a number of benches for assembly work. The person in charge—the Centre Supervisor—should not only be a skilled engineer conversant with all processes used in the factory but should also possess the human qualities of patience, tact and understanding. The newcomer will already have been interviewed and tested by the Personnel Department and provisionally engaged for a particular job of work. The difference in this method is that after the preliminary induction.

instead of proceeding to his own department, he is sent to the Induction Centre. The supervisor has already received from the Labour Office a recommendation as to the type of work proposed, and it is his job to progress that recommendation. If, for example, it is intended that the newcomer shall be employed as a fitter, various jobs are given to him, and from his performance on those jobs the supervisor will make an assessment as to whether he is likely to make a success of the job for which he has been chosen.

If there is no doubt about it, the man is passed out to his department as quickly as possible, but if, in the opinion of the supervisor, he is not likely to make good, then the Personnel Department is advised and a conference in which the man, the supervisor and the Welfare Officer all take part is held. A frank discussion takes place, and it is pointed out that the action taken is just as much in the individual's interest as in the firm's. Various alternative jobs are then discussed, and it is very seldom that a satisfactory solution is not found, for it must be remembered that the individual has already been through an initial screening and therefore, on paper at any rate, comes up to the required standard.

This induction work is not to be confused with training. It is, in fact, a practical check on the assessment of the Personnel Department and in the opinion of competent judges is well worth the time and trouble. The argument is put forward that no firm would install a piece of machinery without giving it a preliminary test, and yet all too often the most delicate and intricate machinery of all—mankind—is expected to function efficiently without any preliminary thought being expended on it.

From the point of view of the individual, the method has a lot to commend it. If he is allocated to a department and it is subsequently found that he is unsuitable, he suffers a loss of prestige which is bound to be harmful to his self-esteem; while from the management point of view, there is nothing more costly and dislocating to production than a high labour turnover. From this angle alone the centre serves a useful purpose, but it is also claimed that this method of induction will reveal character traits which no amount of selection tests would bring to light.

The question of temperament was mentioned earlier in this section and it was pointed out that it played a very important part in the working life of an individual. It is not only the individual who is affected, however. The group as a whole may show the most startling reactions to the introduction of an alien element. To take a simple illustration: if a system of group piecework is being used in a factory, it is easy to see that the more the members of the group are integrated the better will be their results. They become in tune with one another, their production is rhythmic and consequently their earnings are higher, and altogether a satisfactory state of affairs exists. Now introduce a fresh worker into the group, someone who does not fit in, someone who does not respond to working in a group, and you have done two things. You have made the new worker unhappy because he knows

that he is not accepted by the group, and you have disturbed the rhythm of the entire group, with a corresponding decrease in production. The effects are both disturbing and far-reaching. Temperamental characteristics are not at all easy to detect during an interview, but a few days' work in a shop with other men will often prove very revealing. Even if the standard of work is acceptable, it still may be considered good policy to divert the individual from the work for which he was originally intended, on the grounds that he would not "fit in."

The great aim of the Induction Centre is to get all the "teething" troubles over before the worker is posted to his ultimate department, so it is necessary for the Welfare Officer to be a frequent visitor in order to try to iron out any domestic or emotional troubles which may be experienced in the early stages.

Even when the man has been posted to a department, he should not be forgotten. From time to time a report on his progress should be made and this report, in addition to his abilities as a workman, should comment also on other qualities such as reliability, co-operation with other workers, versatility and dependability.

These reports are the concern of the Personnel Department, who file them with their records, but if the report is an adverse one or contains remarks which merit investigation, then it should be passed to the Welfare Officer, who should make such enquiries and take such action as he may think necessary. *No adverse report should ever be passed over.* If a man is not making progress, there is a reason. It may or may not be his fault, but in justice to him it should be investigated and cleared up. This is where a good Welfare Officer can be invaluable to his company. Apart from the good which he can do in preserving a contented working force, his reports, being objective, often provide valuable pointers to the higher management on the question of general shop supervision and discipline.

REHABILITATION

The Induction Centre need not necessarily be confined to the reception of new workers. By reason of its layout and supervision it is admirably suited for the rehabilitation of the industrially injured. The word "rehabilitation" is often used in connection with the return of personnel from the Forces, but in this section it is proposed to refer to that as "resettlement" and it will be dealt with under that heading. Rehabilitation, as industry understands it, is an attempt to see that those who have met with accident or injury during the course of their work can be given some form of light work which can be beneficial from a medical angle, and will accelerate a return to their normal occupation. When an employee meets with an accident at work, there are three people who are immediately concerned.

The first is the Medical Officer, whose job it is to give what immediate

treatment is necessary and arrange for transport home or, if the case is a serious one, to the hospital, and follow up as required.

The second is the Safety Officer, who should at once take full particulars of the accident, check to see that all statutory safety precautions have been complied with and make the necessary report to the Factory Inspector.

The third is the Welfare Officer, and it is his particular province to look after the injured person's immediate needs and if necessary safeguard his rights. In the latter sense, he should make himself familiar with the law relating to Workmen's Compensation and National Insurance. His first duty should be to visit the home of the individual and, if the injury is a serious one which has necessitated removal to hospital, tactfully break the news to the relatives and arrange for information from the hospital and a visit as soon as allowable. This breaking the news may seem elementary, but it is one of those things which can quite easily be forgotten unless it is part of a standard procedure and definitely allocated as a duty. It is no good giving expert medical assistance and transport to hospital, and then omitting to advise relatives who may live some distance away and consequently suffer great anxiety. It should therefore be laid down as a rule that any accident involving hospital treatment should at once be reported to the Welfare Officer, whose responsibility it is to see that the injured person's relatives are informed.

During the course of the home visit, tactful enquiries should be made as to the financial position, and if there is likely to be any immediate hardship, arrangements can be made to alleviate it. While hospital treatment is proceeding, occasional visits should be paid, and the individual should be made to feel that a real interest is being taken in him and that the company is every bit as anxious for him to return to work as he is.

It is, however, during the convalescent period that the Welfare Officer can really get to work. In consultation with the Medical Officer, he can suggest a course of rehabilitation during which the individual can be given work which will not only enable him to earn a wage but will be designed to assist in curing his injury and restoring him at the earliest opportunity to his old job.

As an illustration, let us take the case of a man who has injured his right arm. The hospital or his doctor have given him certain physical exercises to perform with that arm in order to restore it to its proper functions. Now we all know how strong-minded one has to be to carry out physical exercises, and nearly always that part of the treatment is neglected. So far from regaining its normal use, the chances are that a more acute condition will develop in the injured limb. If, however, such a man can be given a job which will bring into play the physical motions required, he will soon be on the road to recovery because he is getting the proper exercise in a congenial atmosphere and—more important than anything—he is being paid for doing it.

This work can be carried out in the Induction or Rehabilitation Centre under the watchful eye of the Medical Officer, and if it can be found possible

to adapt or improvise so that a genuine production job is done (and not just remedial exercises masquerading under the title of "work"), a great deal of good will be done. It is a well-known fact that the more worthwhile the job, the quicker the rehabilitation.

It will probably be found that when the individual is first approached with the suggestion that he should start back at something other than his pre-accident job there will be a certain hesitance and perhaps even resistance. He will feel that by so doing he may be prejudicing his own interests, and it will need careful explanations to convince him that it is the right thing to do. In all cases of prolonged absence from work, some form of neurosis is bound to be in evidence and the Welfare Officer must not be discouraged if his first attempts are unsuccessful. One of the principal aims of rehabilitation, apart from its curative value, is to get rid of these neuroses, and if the injured individual can be persuaded to return to work on the lines indicated, his mental and physical progress will be greatly accelerated. The complete co-operation of the individual is absolutely necessary for the scheme to be successful, and it is in the process of obtaining that co-operation that the work of the Welfare Officer is so necessary.

"Light Work Wanted."—One of the Welfare Officer's many headaches is the consideration of cases which are referred by the Medical Officer as "fit for light work only." Some of these cases are purely temporary and there is every reason to expect that in a week or two at most the man will be fit to resume his normal occupation. These are not difficult to deal with, as most foremen are only too anxious to help their own men and will usually find a few odd jobs to keep him going until he is quite fit. The real difficulty lies in the case of people who perhaps through severe illnesses or increasing years cannot stand up to the strain of production work and require some form of alternative employment.

Many of these people are old and faithful servants who have given of their best in the service of the company, but still have some years to go before they reach pensionable age. It would be manifestly unfair if they were not treated with every consideration, and that is why this aspect becomes a welfare problem as distinct from the purely personnel side. First of all, the whole case-history has to be reviewed in conjunction with the Medical Officer, who will indicate according to the disability of the individual what, in his opinion, are the medical factors to be taken into account. This person must have a sitting-down job, this one must not go up ladders, this one must be out in the fresh air—each one is a distinct problem which needs individual matching.

Having noted all these idiosyncrasies, the Welfare Officer then interviews the Labour Officer to see what jobs are available. As may be expected, there are no jobs available—no foreman has been thoughtful enough to include in his requisition the remark that he must have a man who can't go up ladders. The Welfare Officer, however, need not be discouraged and, if he is on good

terms with the supervision (and if he is doing his job properly he is on good terms), he knows that a great deal can be done by the exercise of goodwill and co-operation on their part. He should therefore make his initial approach to the supervision with a specific case which he is anxious to get fixed up. The chances are that he will get away with this comparatively easily, but there will eventually come a time when the supervision will politely regret that they can no longer help him, alleging that their departments are rapidly being turned into hospitals or homes of rest. Clearly, a different technique is now needed, and with the approval of the Works Manager the whole of the jobs (and here the value of correct job description is again evident) in the factory are scrutinised both by the Medical Officer and the Welfare Officer. The result of this scrutiny will reveal that there are quite a number of jobs which could be reserved for persons with physical limitations. This being so, permission should be sought from the Works Manager to treat these jobs in the same way as "designated occupations" are for disabled persons; that is to say, the foreman should receive instructions that he is not to employ an able-bodied person on those jobs unless he cannot find anyone else with physical limitations. It will usually be found that a large number of these jobs are occupied by people who are capable of being transferred to work requiring greater physical effort, and thus a more efficient use of available manpower is assured. This factor, incidentally, is a most important one in view of the present position of the labour market.

It may be argued that if a wholesale shuffle of jobs such as has been described is the answer, why go to the trouble in the first place of trying to get the foreman to place individual cases. The answer to that is that if the wholesale shuffle can be avoided, so much the better, and it is much better to enlist the sympathy of the supervision in the placing of these people than to do it by an edict of management. In either case the utmost tact and discretion is necessary, as unless the scheme is put over properly it will be resented by supervision as a criticism of their own efficiency. The ideal is an all-round co-operative effort, and much depends on the personality of the Welfare Officer in this direction. If he is accepted by supervision and men as a man who knows his job and is doing that job in the best interests of the company and the working force, he will probably get all the co-operation he wants, but if he is not, even an edict of management will not make the plan work successfully.

RESETTLEMENT

Finally, under the general heading of rehabilitation comes the resettlement of ex-Service men and women. Many large firms have seen fit to appoint a full-time Resettlement Officer, and where there is sufficient work for a specialist officer it is an excellent idea.

Resettlement is, however, part of the welfare function and as such is very

much the concern of the Welfare Officer and should come under his direction. At the end of the war a great deal of literature regarding resettlement was issued by the Ministry of Labour and the attention of employers was constantly drawn to the responsibilities, legal and moral, which they owed to the returning ex-Service personnel. In point of fact, experience has shown that these people settled down to their jobs with far less difficulty than was anticipated.

Most of them seemed glad to take up the threads again with the minimum of fuss, but there were, of course, obvious cases where the employee had outgrown his old job and provision had to be made for him in some other way. Generally speaking, employers have interpreted the spirit of the Reinstatement in Civil Employment Act 1944, rather than the letter, a statement which can be proved by the number of cases referred to the Reinstatement Committees for settlement. These, bearing in mind the total number of people involved, are practically negligible.

The fact that the firm has honoured its obligation and reinstated the individual does not, however, absolve the Welfare Officer from further responsibility. It will be found in practice that the actual settling-in period is comparatively easy, particularly if the firm employs induction methods such as have been described. The really difficult period is anything from six to twelve months after restarting, and the Welfare Officer would be well advised to mark his records accordingly and look up these people about that time.

It has to be borne in mind that the initial period is usually under a certain emotional spell. There is the joy of returning home, the welcome from fellow-workmen, the delight in getting back to the old job again and taking up the old associations. These things carry one on for a time, but inevitably a reaction sets in and the ex-Service man finds that some adjustment is necessary. It may be physical, it may be psychological, it may have its roots in the factory or it may be due to domestic difficulties, but it is nearly always there. In most cases, it is true, the adjustments needed are trifling, but occasionally a really difficult case has to be dealt with and in that event the advice of the Medical Officer should be sought immediately.

As examples of the types of problems likely to be encountered, the following are two authentic cases which have been dealt with during the past year.

Worker "A" returned to his old job in the Paint Department after an absence of five years spent in the Royal Navy. His work consisted of rubbing down motor-car bodies prior to their being painted. He was familiar with the process, having worked at the same job for four years prior to his call-up. He was popular with his colleagues and got on well with his supervision, by whom he was regarded as a steady, hard-working man. About six months after his return his time-keeping, which up to then had been perfect, deteriorated, he was late for work most mornings and once or twice did not turn in at all. His excuse was that he was not sleeping very well, but he refused to consult his own Panel Doctor. He was interviewed by the Works

Medical Officer, but was unco-operative and clearly resented being questioned. His work in the department was steadily getting worse and his temper more and more uncertain. Eventually his foreman, who had a genuine liking for the man, asked the Welfare Officer if he could do anything to help, hinting that unless the man's work and manner improved considerably he would be obliged to take some disciplinary action. The man was interviewed by the Welfare Officer, but the first interview was a complete failure. The man's manner was truculent; he insisted that there was nothing wrong either at work or at home except that he was not sleeping very well. He strongly resented a suggestion that he should be transferred to other work, saying that he would leave the firm rather than leave his department.

On the second occasion, two days afterwards, the interviewer, in an endeavour to build up the right atmosphere, got the man talking about his Service life and in the course of conversation it transpired that he had been torpedoed and had spent eight days on a raft in the Atlantic Ocean, an experience which must have left an indelible mark. The interviewer was quick to bring this fact to the notice of the Medical Officer and together they visited the man's department. There they found, as they expected, that he was working in an atmosphere where water used in the process was the predominant feature. It seemed feasible that this atmosphere had set up an association of ideas which had unconsciously brought back to the man the fear he must have experienced, which in turn caused him to lose sleep. He was consulted and, although he still thought that there was nothing in it, he was persuaded to try work in another department. Within a fortnight his insomnia had disappeared, his work was excellent and he had regained his old cheerful disposition, to the great delight of all those who knew him.

Worker "B" was a staff employee who prior to the war had been engaged in a junior clerical capacity. He served throughout the war and was demobilised with the rank of Sergeant. On his return he was offered, and accepted, a quite responsible job in the Accounts Department. It was obvious from the start that he was worthy of an even better job, and he was promised promotion as soon as an opportunity occurred. His working environment consisted of a large, well-lit, well-ventilated office shared by some twenty people, but with ample space for all, each person occupying an individual desk. Some eight months after his return he put in for a transfer. The man, on being interviewed by the head of his department, explained that he could not stand being shut in the same room all day and that the confinement was having a detrimental effect on his health. He had suffered for some time from indigestion and was afraid that more serious gastric trouble might develop. He gladly consented to an examination by the Works Medical Officer, and expressed himself relieved when he was told that there was absolutely no trace of any gastric or duodenal ulcer.

He persisted, however, that he must get away from the office as, although he was on friendly terms with everyone, he could not get rid of that "shut

in "feeling. The Welfare Officer was asked to investigate, and in the course of a long interview he elicited the following information.

(a) The man's military experience had been almost entirely clerical, and for the last three years of the war he had been doing office work under conditions not nearly so favourable as those he now enjoyed. During his military service he did not have any symptoms of indigestion, neither did the environment of the office worry him.

(b) He was engaged to be married and lived with his fiancée's people. The house was a very small one and he shared a bedroom with her brother. There was apparently very little privacy in the house and he hardly ever saw his fiancée alone, but he said he was very comfortable and they were very kind to him.

Asked why he did not get married, he said that he was anxious to do so but his fiancée's mother would not hear of a wedding until they had a house to go to, and under existing circumstances that did not appear to be a probability for some years. He was advised to get married and take furnished rooms until such time as a house could be obtained, and he agreed to talk the matter over with his fiancée. It took a deal of persuasion before he could gain her mother's consent, and even then she insisted that there was no reason to go elsewhere for rooms. He carried his point, though, and obtained two very nice rooms in a good neighbourhood not too far from the factory. In a very short time his health had improved, his indigestion had disappeared and he no longer felt "shut in" or desired to change his job. He has since received promotion and is living a perfectly normal happy life.

The two cases quoted are, of course, exceptional, but they are quoted to show how necessary it is when dealing with resettlement cases not to overlook the smallest detail. Whenever it is suspected that the difficulty is psychological, qualified medical advice should be taken. Generally speaking, it will be found that ex-Service men are anxious to get back into the group—to be accepted as such—and any attempt to treat them as a class apart is very properly resented.

It has been mentioned that some firms have appointed Resettlement Officers, and while this may be a very good thing from the point of view of getting someone who has actual experience of Service life and thus can "talk the same language," there is a danger that this differentiation may be carried too far. The last thing a factory wants is to have two opposing camps—the "ex-Service men" and the "munitions workers"—and it is perhaps wiser to treat the former as a re-engagement, relying on sound methods of induction to fill the gaps occasioned by his absence. The sooner he is welded into the industrial community the better it is for him and the community, and although a period of adjustment may be necessary, anything in the nature of spoon-feeding is to be deplored.

This section has been planned more especially to describe the welfare function as it operates at the time of an employee's introduction or reintroduction.

duction to work. It has been stated that personnel management and welfare work are frills which only the wealthy organisation can afford. That is not the case. If the principles which have been enunciated in the foregoing section are studied, it will be seen that they are applicable to every firm, large or small, and although the large firm may have different specialist officers with varying titles carrying out the activities described, it does not alter the fact that they are each performing a welfare function, in that they are ministering to the human needs of labour. There is a well-worn phrase which, alas, is often used derisively, "Are you happy in your work?"

In point of fact this question is really the acid test of good industrial relations, and upon the answer to it the personnel policy of a firm may well be judged. The essence of all welfare work is the promotion of human happiness, and the wise employer will cultivate that happiness, not necessarily for any altruistic reason, but because he knows that a happy employee is going to produce more and better work than a discontented one.

EDUCATION AND TRAINING

By John Clark

For many years industrial welfare was thought of entirely in physical terms—better heating and lighting, good canteens and medical attention, safety precautions and so on. Today the more enlightened firms, while still recognising the great importance of these things, have moved another step forward and give attention also to the psychological welfare of their employees. The Education and Training Department of a progressive commercial or industrial undertaking may be regarded as the psychological welfare department. It takes the new employee under its wing when he arrives, and gives him an induction course supplying all the information about the firm which he needs to smooth his path during the settling-in period. If he requires it, he is also given instruction in how to do the job. If he is under the age of eighteen, he spends a day each week at day continuation classes, and if he is an apprentice, he will have organised practical training and technical classes as well. If he goes into an office, a selling department, a workshop or a laboratory, the Education and Training Department will see that he has opportunities for instruction within the firm or outside, so that he can become fully qualified for his job or for a better one. If he is reinstated after war service, he will receive refresher training. Supervisory grades—charge-hands, foremen and department managers—are also catered for, because the psychological welfare of any working group depends largely upon the ability of the supervisors to handle human problems. The Education and Training Department also keeps top management informed on courses, conferences and lectures on matters concerning them, organised by trade and professional bodies. Thus it will be seen that all grades are offered the facilities for improving their ability to do the job and to advance to a higher level. This policy not only improves the all-round efficiency of the organisation, but pays high dividends in human happiness and improved group morale. A person can be happy only when he is giving himself wholeheartedly to the task in hand, and this is only possible if he is fully trained. The more ambitious person also wants to see his way clear for advancement, and training provides the way.

Some firms do not stop at training for the job, but believe in providing opportunities for purely cultural and recreational education as well. They believe that their employees can only be good members of the firm if they are also good members of the community and of their family group. So classes in current affairs, home crafts, dancing, music, painting and a host of other

subjects are encouraged. In these firms the Education and Training Department looks on the employee not only as a worker but as a whole human being, and endeavours to meet his psychological needs accordingly.

The scope varies tremendously in different firms. Some of the big engineering works have concentrated on apprenticeship, while others are best known for their day continuation schools. Some firms—including the Royal Ordnance Factories during the war—have developed supervisory training to a high level; others—particularly retail stores—have concentrated on the induction of the new entrant. At the present time there is a considerable movement in many firms towards filling in the gaps in their education and training programme. Just as there is a movement towards a national wages structure, hours of work and conditions which are more equitable for all trades and occupations, so in the case of education and training it is realised that all types of employees in all types of jobs have a right to opportunities for improvement.

An Education and Training Policy.—Some firms have embodied their education and training policy in a written statement, and they are striving to build up the organisation necessary for achieving the aims they have set down. A comprehensive education and training policy embodies the following three main principles:

1. That education and training applies to all grades of employees;
2. That it is a continuous process applying throughout life;
3. That it aims at providing the maximum opportunity for all employees to develop their talents as individuals, as workers and as citizens.

It follows from these principles that all jobs must be graded for promotion purposes and that there must be clearly demarcated lines leading from grade to grade. There must be a job analysis for each job setting out in detail what its requirements are:

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|-----------------------------|------------------------------------|
| 1. Standard of intelligence | 6. Experience |
| 2. Special aptitudes. | 7. Details of job knowledge. |
| 3. Type of temperament. | 8. Details of background knowledge |
| 4. Physical requirements. | 9. Normal age range |
| 5. Educational standard | |

There must be the necessary machinery for periodic rating and testing as well as for providing or arranging the education and training required.

Testing sometimes comes within the scope of an education and training department and sometimes it is carried out by a separate personnel department. The tests which have been most widely and successfully applied in this country are those designed by the National Institute of Industrial Psychology. They require to be administered and interpreted by people who have been thoroughly trained in the job, for they can do much harm if used without proper precautions and without the interpretation of the scoring

being adequately understood. When properly applied, they are of great assistance in fitting people into the right jobs and in preventing square pegs from getting into round holes.

Merit rating of performance on the job also requires skilled handling. It can only be carried out by the supervisors who have an intimate knowledge of the performance of the workers under their charge, but the rating sheets which are used must be designed by someone with a knowledge of the technique; and the supervisors must be instructed in their use. Merit rating, though not claiming the same accuracy as psychological testing, is the fairest generally applicable method of obtaining an estimate of performance and is an important factor in deciding suitability for promotion.

It must be the responsibility of one member of management to develop and interpret the education and training policy, including rating and testing as well as instruction. Answerable to this member of management there should be an executive—usually called the Education and Training Officer—who has the duty of implementing the policy. In a small firm the duties of an Education and Training Officer may be combined with other functions, while in a large firm he may control a large department with many lecture rooms and workshops and a team of specialist instructors.

It is obviously easier for the larger firms to provide or arrange for first-class instruction in a wide range of jobs than for the small concern which cannot afford to carry the overhead charge of a comprehensive education and training department or has insufficient numbers to enable it to obtain special facilities from the Local Education Authority. This difficulty can be overcome by co-operation between firms themselves and between firms and the Local Education Authority. A certain amount of co-operation has already taken place in the provision of training facilities, and this will undoubtedly greatly increase when the provisions for Further Education in the Education Act 1944 are implemented.

The Effect of the Education Act 1944.—The Education Act 1944 lays down "that it is no longer a permissive function, but a duty of local education authorities to secure:

(a) full-time and part-time education for persons over compulsory school age;

(b) leisure-time occupations, in such organised cultural, training and recreative activities as are suited to their requirements, for any persons over compulsory school age who are able and willing to profit by the facilities provided for the purpose."

Local Education Authorities have been asked by the Ministry of Education to submit their plans for making these provisions by April 1948 and in the Ministry of Education Pamphlet No. 8 on "Further Education" there are set forth guiding lines on how to prepare these plans. The local authorities are advised to make a comprehensive survey of their area including:

- (i) numbers of employed persons of each sex in each age-group in each industry and occupation;
- (ii) estimated annual entry into each industry and occupation;
- (iii) existing training and welfare arrangements for each industry and occupation;
- (iv) numbers enrolled in day and evening classes for each vocational subject over a period of years.

The pamphlet goes on to say that this survey will reveal that many occupations are already catered for, but it also points out that "in the past, workers in many of the smaller industries have been either wholly ignored or very inadequately served in regard to courses in technical colleges." The local authorities are advised that, if the estimated yearly entry into any occupation amounts to fifteen young people, then separate graded classes can be maintained for each such group every year. If the estimated recruitment is less than fifteen there should be local grouping of similar crafts as far as possible, and provision should be made on a regional or national basis for those parts of the training which are specific to the particular craft or occupation.

Industry's Responsibility.—Thus it is evident that the policy of the Ministry of Education and that of the more progressive employers are very much in harmony. In essence, they are each striving to provide the maximum opportunity for young people starting at any step on the educational ladder and entering upon any occupation. Furthermore, they are endeavouring to satisfy the needs of those who want not only to qualify for one occupation but to train for promotion to positions of greater responsibility. The following statement, contained in a report on "Industry and Education" issued by the Federation of British Industries at the time when the Education Bill was enacted, is wholehearted in its support of these aspirations and lends its full authority to the work of the Education and Training Officer:

"Industry has a great responsibility as regards the education and training of the young, both inside and outside the works, a responsibility which it has not always accepted in the past. It is, however, something which, for the future, must be shouldered if the benefits which the country expects from the forthcoming educational reconstruction are to be realised. In this connection the Federation notes with approval the increasing tendency of firms to appoint Education Officers, who should be consulted by managements on all general educational matters and should be charged with the development and supervision of suitable education and training schemes.

"If it is true that education is a continuous process, there is no reason why the practice of it should cease with manhood . . . it should be the policy of industry and of individual firms to develop systematic training at various levels in the organisation, the aim being to supplement in this way the experience gained in the course of the performance by the individual of his ordinary functions."

THE NEEDS OF THE SEMI-SKILLED WORKER

During the course of the last hundred years or more the process of mechanisation and rationalisation of industry has been going on. This has resulted in a great decrease in the number of hand craftsmen and a corresponding increase in machine minders and other workers doing very simple repetitive jobs. The mechanisation of industry has, however, still a long way to go, and we may look forward to the day when the great majority of repetitive operations are performed by machines. Also there is a tendency for rationalisation to retrace its steps and allow each operative to perform several operations instead of one only. Thus, it may be that we have passed the peak in the monotonous occupation curve and that the future will require a greater proportion of skilled machine maintenance workers and operatives requiring higher degrees of skill. This tendency will undoubtedly be influenced by the kind of training which is given. If training is limited to one operation, then workers will be incapable of adjustment to new conditions, but if, as is unanimously recommended in all the Working Party Reports so far published, training is on a wider basis, then the move towards a less monotonous industrial life will be accelerated.

Before the war, when there was a large pool of unemployed workers, very little attempt was made to train the semi-skilled. Labour was a cheap and plentiful commodity, and firms could afford to let new starters learn their jobs by observation of other workers. If they failed to do this in a reasonable time they could be replaced.

During the war, when manpower was urgently needed for the Forces and in the war factories, and today, when production is the country's chief preoccupation, labour has achieved a new importance, and training is seen to be essential if a great deal of waste is to be avoided. In the war factories and in an ever-increasing number of firms which are building up their peacetime production semi-skilled operative training has been developed.

Accommodation and Staffing.—This training can be carried out either in a separate training department or within the production departments. Training in a separate department is usually more satisfactory, as conditions can be modified with training efficiency as the sole aim. Quietness can be obtained and trainees are not discouraged by seeing other workers operating at a high speed. There are, however, many industries, such as heavy chemicals and heavy engineering, where the plant is very large or the process is continuous and it is only possible to train on the job. In either case, the instructional staff should be responsible to the training department on all matters. If they are responsible to the managers of the production departments in which they work, there is a strong temptation to use them for production purposes whenever the pressure of work is great. Instructors on semi-skilled work are usually selected from among the workers doing the jobs in which training is required. In making a choice it is well to take into account, not only the

quality of their work, but also their ability to express themselves and their temperamental make-up—such qualities as patience and tact.

Instructors are usually given some training in the art of instructing and, since the establishment of the Ministry of Labour's Training Within Industry service, this has often taken the form of Training Within Industry Job Instruction. The Job Instruction Programme includes demonstrations of good and bad instruction and builds up the principles of good instruction based on the examples given. These principles are then applied by the trainee instructors, who are themselves required to demonstrate before the group on jobs of their own choosing. There is much controlled mutual criticism, which results in a gradual raising of the standard of instruction. The following is a brief summary of the principles of instruction as taught by the Training Within Industry Section of the Ministry of Labour:

How to Get Ready to Instruct

1. Prepare and Use a Training Time-table—
from which can be determined the training priorities, how much skill you expect a trainee to have and by what date.
2. Break Down the Job—
list important steps (an important step is a logical segment of the operation which substantially advances the work);
pick out the key points (a key point is anything in a step which might make or scrap the work, injure the worker, make the work easier to do—e.g. any "knack," "trick," special timing, or bit of special information).
3. Have Everything Ready—
the right equipment, materials and supplies.
4. Have the Work-place Properly Arranged—
just as the worker will be expected to keep it.

How to Instruct

- Step 1—Prepare the Worker—
Put him at ease.
State the job and find out what he already knows about it.
Get him interested in learning job.
Place in correct position.
- Step 2—Present the Operation—
Tell, show and illustrate one IMPORTANT STEP at a time.
Stress each KEY POINT.
Instruct clearly, completely and patiently, but no more than he can master.
- Step 3—Try out Performance—
Have him do the job—correct errors.
Have him explain each KEY POINT to you as he does the job again.
Make sure he understands.
Continue until YOU know HE knows.
- Step 4—Follow up—
Put him on his own. Designate to whom he goes for help.
Check frequently. Encourage questions.
Taper off extra coaching and ease off the follow-up.

IF THE WORKER HASN'T LEARNED, THE INSTRUCTOR HASN'T TAUGHT

The Place of Training Within Industry.—The Training Within Industry Job Instruction Programme also affirms that training is one of the functions of supervision and assumes that supervisors will carry out all the training necessary for their own departments. The programme is, in fact, primarily designed for supervisors and many companies are running their semi-skilled operative training entirely as a supervisory responsibility. It is clear, however, that the first priority on a supervisor's attention is production and that training may not always get the attention it merits. Training Within Industry Job Instruction is of undoubted value in making all grades of management and supervision more aware of the need for training, in making them appreciate the complications of instructional technique and in improving their ability to impart their knowledge and skill. There is much training which must be done by supervisors—in small factories, offices and shops, or in small departments when it would be uneconomical to provide centralised instruction.

But where there are sufficient numbers to provide a regular flow of trainees, there is no doubt that training should be centralised. A semi-skilled-operative training section can take a great load off the shoulders of production supervision while in no way absolving them from responsibility for seeing that the workers under their charge do their work correctly and quickly.

Training for semi-skilled work may last any length of time from a few hours to a few weeks, depending upon the number of operations to be learnt and the standard of speed and accuracy required. When piece-work rates are in operation, it is essential that the trainee should have attained a fair degree of speed before passing into the production line. Otherwise there is bound to be a strong feeling of frustration. The achievement of speed frequently requires individual tuition for each operative and for that reason it is essential to have an adequate number of instructors. Six trainees to one instructor is an ideal number, and ten trainees per instructor should be a maximum.

The introduction of job-training in semi-skilled work, with its careful analysis of each job, often reveals the fact that various methods of varying efficiency are being employed for doing the same job. Management attention is thus concentrated on method, and it may be that considerable improvements are introduced. It is not the function of a training department to develop new operating methods. That is the responsibility of the production management or of a special research or motion-study department. The training department can, however, be of great assistance in ensuring that new methods are introduced in the most tactful way and that they are learnt and practised until they come more naturally to the operative than the old. It can also aid supervisory staff in the improvement of their methods by giving them the Training Within Industry Job Methods Course. This is dealt with more fully in the section on supervisory training.

As well as helping to introduce improved and standardised methods,

training on semi-skilled work frequently increases the operative's pride in the job by giving him the status of a "trained worker." Even if he performs a very simple operation he realises that there are varying degrees of efficiency, that he has been instructed in the method which the management considers best and that he can strive to keep up or even surpass the standard set by his instructors.

Background Training.—There is also another way in which a pride in the job can be developed, and that is by the introduction of considerable background knowledge into the training course. This should include information on the following: (i) the function of the operation or process on which the operative is engaged in relation to the whole process; (ii) the uses of the product which he is helping to make; (iii) the raw materials from which the product is made and the processes which precede and succeed that on which the operative is engaged; (iv) the other products of the company and the contributions which the company's production is making to the community.

This information should be covered in visits, demonstrations and talks interspersed with the job-training. Indeed, in the case of a new operative, the whole of the induction course should be covered in this way. The variety created by alternate spells of practical activity and sedentary absorption of knowledge is beneficial to both.

Even when the operative is thoroughly proficient in the most up-to-date method of doing the job, there is great value in further background training including the history of the company and of the industry as a whole, the present position, the future prospects and the part which the company aims to play. These wider aspects should be linked up with the changes affecting the employee's own department and the employee as an individual. Many works' schools and other day continuation schools include this kind of information in their curriculum and relate their wider history, geography and citizenship syllabuses to the individual worker. At the present time, however, there are only a few firms which include juveniles engaged on semi-skilled work within their scheme for continued day-time education. Many firms provide exclusively for special groups such as apprentices and office and sales juniors, usually on a voluntary basis.

The Effect of County Colleges.—The Education Act 1944 provides for the introduction of compulsory attendance at County Colleges of all juvenile employees on one day (or its equivalent) each week in forty-four weeks of the year up to the age of eighteen. County College attendance will be introduced on an appointed day within the next few years, and this promises to be an even more important step than the raising of the full-time school-leaving age to fifteen in April 1947. For the first time the great mass of the population who have hitherto left school at fourteen will continue in contact with an educational environment throughout the adolescent period, and it will not be the familiar environment of the elementary school which has frequently been

remote and unrelated to the working life to follow. If the Ministry of Education's plans are implemented, an entirely new type of education will be provided which will be closely integrated with the life outside the school. The plans for County Colleges are set out in the Ministry of Education Pamphlet No. 3 entitled "Youth's Opportunity," which formulates the aims as follows:

1. *Physical Development*

- (i) To help young people to understand how to live a healthy life.
- (ii) To give opportunities for regular physical exercise and to develop physical skills.

2. *Mental Development*

- (i) To help young people to learn to concentrate on a piece of work and to carry it through systematically and thoroughly.
- (ii) To help them to use their leisure to find out more about subjects that already interest them, and to acquire a desire to explore new fields.
- (iii) To stimulate an interest in music, drama, art, literature and scientific discovery.
- (iv) To improve their knowledge of English, and power to use it verbally and in writing.
- (v) To help them to acquire an appreciation of the place and responsibility of the family in a healthy community.
- (vi) To help them to obtain a good knowledge of conditions in their own country and of how they can help to improve them.
- (vii) To help them to learn more about the people of other countries.
- (viii) To help them to learn something of the leadership and co-operative service necessary for good citizenship in a democratic community.

3. *Moral Development*

- (i) To foster honourable, tolerant and kindly behaviour in their dealings with their fellows.
- (ii) To foster an independent and balanced outlook on life.

In order to achieve these aims it is suggested that a curriculum on the following lines should be arranged.

Three-sixteenths of the day should be devoted to physical activity "to aid the complete development, both structural and functional, of the body, to cultivate the self-control, self-confidence and self-respect that a sense of physical efficiency gives; to develop the socially valuable qualities required by participation in team games, to provide a natural outlet for high spirits and to implant a taste for activities which, in later life, can be enjoyable recreations as well as a means of keeping fit." It is pointed out that one brief weekly session is quite inadequate for the achievement of these aims and that it should be treated as an introduction and supplemented by voluntary evening and week-end activities. Gymnastics, team games, athletics, dancing, swimming, boxing, wrestling, fencing, hiking, climbing, sailing and camping are listed, and it is suggested that the scope should be sufficiently wide to provide something which will appeal to all tastes.

A further three-eighths of the day should be spent in some practical activity. Every County College will contain three craft rooms—one equipped as a centre for domestic activity including cooking, dressmaking, house furnishing, gardening and care of live-stock; a second fitted out for light crafts such as painting, drawing, modelling, book crafts, spinning, dyeing, weaving and pottery; and a third for the heavy crafts—wood and metal work. Music, acting and film-making are also included in this category. Again, the scope of each college should be sufficiently wide to provide for all tastes and talents, so that each student achieves a mastery of at least one activity. In addition he should gain an understanding of the background and theory of his subject, so that his skill is controlled by a reasoned appreciation of its results. It was skill without knowledge which produced our legacy of ugly and ornate furniture and architecture. The time spent on practical activities should foster a critical appreciation of design and taste in everyday things.

A quarter of the day should be allocated to "General Activities," which are best known under the traditional classification as English, citizenship, history, geography, science and mathematics, but there should be a complete break with the formal approach under these headings. Activities embracing a number of these "subjects" should be the starting-point. The following are a few examples: running a college magazine or a wall newspaper, holding a mock parliament or council meeting, the critical study of radio talks and films, the study of local trades and industries, particularly those in which the students are working. The making of a local survey is a good line of approach. The materials are readily at hand in the shape of local maps, new and old, historical buildings, municipal offices, churches, the climate, the geology, the vegetation, and animal and bird life of the district.

The remaining three-sixteenths of the day should be devoted in some activity chosen by the students themselves. This may take the form of additional time spent on one of the activities already mentioned or in some joint undertaking such as a literary, debating, scientific, dramatic or musical society. The running of a society under skilled guidance is an excellent training in the social side of democratic life.

It will be realised that a curriculum on the above lines can only be provided if there is adequate accommodation and staff. It is considered that the minimum population which can justify a County College is 10,000 providing approximately 80 students per day. It is therefore inadvisable for any but the largest firms to contemplate the establishment of works' schools, for the number of juveniles in their employment will only justify the necessary accommodation and staff if they employ at least 5,000 workers.

The staffing of County Colleges will be a vital factor affecting their success. It is estimated that 20,000 teachers will be required, and the following qualifications are suggested: (i) capacity for being liked and respected by young people; (ii) an enquiring mind, (iii) ability to teach; (iv) over twenty-four years of age; (v) education of degree standard or equivalent. If

they transfer from other types of school, they should have six months' additional training. It is hoped, however, that many will come from industry itself, possessing specialised knowledge based on practical experience from many fields of work. People with no previous teaching experience will require a training lasting one year and including considerable teaching practice in existing day continuation schools and in other institutions where part-time day and evening classes are held.

Bearing in mind the failure of the attempt to introduce day continuation schools after the Great War, due partly to lack of suitable accommodation and adequately trained teachers, the Ministry of Education is determined to be fully prepared this time. It may therefore be several years before County Colleges are established.

The Value of County Colleges.—When they are established, firms will lose 20 per cent. of their juvenile labour each day. This loss is in addition to those caused by the raising of the school-leaving age in 1947 and to the fall in the birth-rate. Fundamental readjustments will undoubtedly have to be made which will require adults to perform many jobs previously regarded as junior work. The compensating benefits may be summed up as follows:

- (i) Improved physique and reduced absence from sickness, due to continued physical education and easier transition from short school hours to a full adult working week.
- (ii) Less maladjustment due to sudden change from senior position in day school to most junior position at work.
- (iii) Improved sense of responsibility due to increased awareness of the rôle played in society.
- (iv) Improved performance in clerical work.
- (v) Greater powers of self-expression.
- (vi) A wider field for selection of future supervisors and managers.
- (vii) An all-round raising of the human standards of industry.

Firms which have already introduced day continuation classes for semi-skilled workers, and those which do so before the appointed day for compulsory attendance, will undoubtedly reap benefits in the future. They will avoid sudden reorganisation at the time when compulsion is introduced, and many juveniles who are handicapped by poor-quality war-time education will be made more useful workers and citizens. Such day continuation classes should, however, always be introduced with the full co-operation of the Local Education Authority, in order to avoid unnecessary expense and duplication of facilities and so as to be fully in harmony with future plans.

THE NEEDS OF THE SKILLED WORKER AND THE TECHNICIAN

The need for training of the skilled worker has been provided for ever since skilled crafts came into existence. The craft guilds of the Middle Ages

had many rules regulating the number, training and working conditions of apprentices. The vows made by the members of the guilds had the backing of the Church and were solemnly observed in most cases, and thus the apprentice was afforded every opportunity to acquire the skill and knowledge of his trade from the master craftsman. With the development of mass production, apprenticeship in many trades has tended to decline. Skilled jobs have been broken down into many simple operations which can be performed by machines or by semi-skilled operatives. There has, however, been a compensating development during the same period of apprenticeship in the numerous branches of the engineering industry. Also there has been a great development of skilled occupations in those trades, new and old, which are based on chemical processes—in brewing, paint-making, plastics, rayon manufacture, etc.

In the engineering and other industries in which apprenticeship exists, the trainees may enter the firm as "craft" apprentices, having left school usually at the minimum age of fifteen. They may enter at a later age from a Grammar, Technical or Public School as "student" apprentices, or they enter at the age of twenty-one or twenty-two, having taken a full-time training in a university or technical college, as "college" or "graduate" apprentices.

Apprenticeship Training.—In all three cases the same type of organisation of practical training applies. A survey is made of all jobs carried out within the firm which come within the scope of the trade concerned, and time is allocated so that all is covered in a period of years. The training is carried out under the supervision of departmental heads, but the Education and Training Officer superintends the training as a whole and receives periodic reports of progress. Larger firms usually have a special apprenticeship workshop where craft and student apprentices spend an initial period entirely away from production work, and under the supervision of special apprentice instructors. There is usually a definite time each year when apprenticeship commences, and the number employed is related to the future requirements of the firm. It is thus possible to plan the training over an extended period. It is possible to provide a common course for a number of crafts during the early stages and, after a period of perhaps two years, specialisation will begin. Five years is the commonest period for craft apprenticeship, but this figure is quite arbitrary and it is generally admitted that some trades can be mastered in a much shorter period with proper training, while others require many further years of study and experience before the trainee can be regarded as fully qualified.

Small firms with a limited range of equipment and work find it difficult to give their apprentices a sufficiently comprehensive practical training. A certain amount of co-operation exists between firms whereby apprentices are interchanged to provide wider experience, but a great deal more ought to be done. The Ministry of Education's lead in this matter is welcome, and it

is to be hoped that firms, both large and small, and the local authorities will co-operate in making available the necessary workshop experience in each trade to ensure thoroughly trained craftsmen and technicians.

Some theoretical training is sometimes given within firms, but this is usually left to the technical institutes and colleges. Craft apprentices most commonly aim at taking the certificates of the City and Guilds of London Institute, for which there are intermediate and final examinations covering a wide range of trades. The National Certificates, which are issued jointly by the Ministry of Education and the professional body concerned, are of a higher academic standard, though less detailed practical knowledge is required. They are usually taken by the more ambitious craft apprentice and by the college apprentice. The Ordinary National Certificate examination is usually sat for after three years' apprenticeship, and the Higher National Certificate after a further two years. The latter is a part exemption from the Associateship examination of a number of the professional associations. The External B.Sc. Degree of London University is also taken on a part-time basis by many student apprentices. The college apprentice joins the firm already in possession of a University Degree or a National Diploma and, if his training has been thorough, he will have spent considerable periods in practical work. In certain colleges the full-time Engineering courses are limited to the Autumn and Spring terms, thus leaving the six months' period from April to September for practical experience each year. This is of great value, not only for providing technical experience, but also for introducing the student to working conditions and affording him an opportunity to mix with and get to understand the people with whom he will later be working full-time.

It is very important that the training given within the firm and the vocational education provided by the Local Education Authority or university be properly correlated, and the firm's Education and Training Officer can play a big part in achieving this. He can furnish the technical college with full details of the proposed syllabus of practical training and arrange for alterations if necessary. He can also keep the firm's apprentice instructors, and the heads of departments in which apprentices are being trained, fully informed of the work which is being done in the technical college and of the progress which each apprentice is making.

A great deal of vocational education for apprentices is still carried on in the evening, but an ever-increasing number of firms allow day-time release. There are no separate figures for apprentices, but the total number of students released for day-time classes in the years 1945-6 was 127,000 and the time allowed varied from three to fifteen hours per week. The most usual periods were one half-day, two half-days, or one whole day.

Non-Apprentice Trainee Technicians.—In skilled occupations other than the many branches of engineering, there is a much less widely accepted tradition of apprenticeship and a consequent greater reluctance to allow day-

time release. There is, however, no reason why a trainee biologist, plastics chemist or fuel technologist should receive any less favourable treatment than an apprentice engineer. Firms which accept the policy set out in the Introductory section of this work, no matter what the tradition may be, are forced to the conclusion that staff of whatever grade or occupation are entitled to equal opportunity to develop their talents. Junior technical staff, laboratory assistants and similar grades are accordingly granted time to attend classes under the same regulations as apply to student apprentices. These regulations usually include payment of fees for attendance and for examinations, in addition to wages during absence. Assistance may be given in the purchase of books and equipment, and a period of full-time absence prior to important examinations may also be given.

In the case of apprentices and other technical trainees below the age of eighteen, a certain amount of non-vocational education is usually included in the syllabus of the day-time classes. The view is widely accepted that English should be studied, and a certain number of local authorities and employers feel that other cultural subjects should be included.

It is an unfortunate fact that antagonistic views exist on this question of vocational versus "cultural" education. There is a tendency for the so-called "hard-headed business man" to condemn any teaching which is not strictly applicable to the trade concerned, while the teacher or headmaster with a classical background is inclined to take a narrow view of culture as being limited to the humanities. In fact, no such dichotomy exists—it is not the subject but the way in which it is taught and the purpose for which the learning is acquired which determine whether it is cultural or otherwise. The training which physical science gives in logical thinking, in drawing conclusions and testing theories by experiments is of inestimable cultural value if the subject be approached in the right way. We live in an environment which is subject to natural laws, and the understanding of these laws which is acquired by the engineering student is as truly cultural as the study of the human laws and customs of any age. If a junior in a commercial artist's studio studies drawing, the subject is vocational. If a chemist studies drawing, it becomes cultural.

It will be noted that the Ministry of Education in making its recommendations on the allocation of time in County Colleges classifies activities under the headings: physical education, practical activities and elective pursuits. It deprecates the division into vocational and non-vocational subjects. At the same time, it is stated that "courses of a vocational character, in the normally accepted sense, should not occupy more than five out of eight periods of the student's time, and that in the first year most of the work should be general and not specific."

As the majority of apprenticeships commence at the age of sixteen, this means that the syllabus of many apprenticeship courses will require to be readjusted to include three-eighths of a day devoted to physical and general

education. This may be achieved by increasing the amount of time spent in day classes by another half-day per week. A second solution is to reduce slightly the content of the vocational part of the syllabus and spread it over a longer period, and a third solution is to move part of the vocational education over to evening study. In deciding which of these three actions to take, managements should bear in mind the following facts:

(i) One of the purposes of the introduction of County Colleges is to reduce the strain of evening study on adolescent employees.

(ii) This does not mean that a big reduction in the numbers attending evening classes is anticipated, but rather that compulsory attendance during the day will encourage more juveniles to take up voluntary cultural and recreational studies in the evening.

(iii) This country has maintained its high standard of technical competence not because of its attention to, but in spite of its neglect of, technical education.

(iv) In the United States a very high percentage of juveniles attend school full-time to the age of eighteen and, before the war, both Germany and the Soviet Union were devoting a much higher proportion of their resources to technical education than Britain.

Taking these facts into account, and bearing in mind the increasing need for technical skill if this country is to maintain its standard of living, it will be seen that another half-day per week of juvenile manpower is a small sacrifice to make.

THE NEEDS OF THE OFFICE WORKER

The educational background of entrants into office work is as widely varied as that of factory trainees for skilled occupations. They may start straight from school at the minimum leaving age; they may come after a period of full-time training at a commercial institute or college; they may come with a good Grammar School or Public School education, or they may enter at a later age holding a university degree in Commerce or Economics.

Whatever the mode of entry or grade of work to be undertaken, there is a particular need for office workers to acquire some initial background knowledge of the firm, its people, its products and its processes. This need is well illustrated by the case of a clerk in the buying department of a heavy-chemical firm who continued to wonder for a period of years why she was required to type orders for such a large number and variety of "valves"—her only association with valves was radio. Office workers frequently deal with statistics, costs, wages and prices concerning people and commodities with which they have no personal contact. They may dictate or type letters and reports on matters quite outside their ken. It is obvious that their efficiency and their interest in the work can be increased by providing them with a

concrete picture of the matters with which they deal on paper. The amount of detail given varies with the grade of office worker concerned. A cost accountant or a works manager's secretary requires a more complete picture than someone typing or filing invoices. Introductory tours of the company's premises and talks on the products and processes are not only valuable for giving this concrete picture, but contact with the work of the factory, warehouse or retail shop helps to break down that antagonism which so frequently exists between the office worker and the factory worker, or even the salesman.

The junior office worker starting straight from school at fifteen is usually given a period of messenger work which is valuable for providing information on the geography of the firm and a general picture of departmental activities and personalities. Continued education is essential to this grade if he is to avoid running into a blind alley. This education is frequently undertaken in the evening, though an increasing number of firms release their office juniors for day classes. As in the case of apprentices, continued education can be either entirely vocational or designed to include general subjects as well. The value of a sound knowledge of English to a trainee typist cannot be over-emphasised, for no amount of mechanical skill in shorthand or type-writing can compensate for an inability to spell or to understand and write good English.

Girls who enter office work straight from school at the age of fifteen have usually been segregated as a group from the less intelligent children in their school. They have specialised in "intellectual" subjects while the less intelligent, who were destined for retail trade or manual work, have been given a training in various aspects of domestic science. Thus it frequently happens that a young office worker, whose life is filled with work, travelling to and from a suburb, social and recreational activities and perhaps vocational evening classes, reaches the stage of marrying and shouldering domestic responsibility entirely ignorant of what is involved. The introduction of County Colleges should do much to right this state of affairs. In *Youth's Opportunity* the Ministry of Education devotes a separate chapter to the needs of girls in County Colleges. It is pointed out that "their own happiness, as well as the good of the community, requires that they should be much better equipped" for home-making "than many who undertake it at the present time." A fresh approach to the domestic crafts and to health, sex and the care of children is advocated, and it is particularly stated that "the kind of work outlined is not unsuitable for the more mentally alert type of girl. Home-making for her is just as important as for anyone else. She will enjoy this education as much as her slower companions, but she will be ready sooner for more advanced work and she will be able to go farther." Some firms already provide opportunities for domestic science training either on their own premises or in day continuation classes under the Local Education Authority. Male office juniors also have an obvious need for the development

of some physical skill if their working lives are to be devoted to clerical activity. The County Colleges syllabus should ensure that this need is met.

Junior Grades.—The types of clerical work to which office juniors straight from school at the minimum leaving age may aspire can be classified as follows: records clerk, book-keeper, calculating-machine operator, copy typist, shorthand typist, secretary. The vocational education for these occupations is available in evening classes at all commercial institutes under the Local Education Authorities and is also provided by a wide variety of private commercial colleges. A number of firms release their junior office staff during the day for such education, and a small number provide it in their own training departments. When the County Colleges are introduced, it will be catered for during the five-eighths of the day which may be spent in vocational study. The examinations of the Royal Society of Arts are usually taken.

Office staff may enter either possessing a general commercial training or qualified to do a specific job, e.g. shorthand, typing or calculating-machine operating. In either case there is need for considerable supplementary training in the actual clerical procedures and systems of the firm. This can be done either by a central training department or by the department managers concerned, who may be aided considerably by taking the Training Within Industry Job Instruction Course. There is a body of information on most clerical jobs which should be reduced to the form of a job manual; this can be used as a basis for training and as a book of reference for those doing the job. Such manuals can well be prepared by the Education and Training Officer with the aid of the supervisors concerned. For example, a manual for a personal secretary prepared after detailed study of the routine of a number of executives' secretaries has been found to produce a marked improvement in the service which these secretaries were able to give. Manuals covering more complicated office systems are sometimes prepared by potential office supervisors as part of their training for promotion.

In the case of calculating-machine operators it is usual to have them trained by the manufacturers of the machines, though some large firms have their own instructors who have been trained in the use of all the machines used by the firm. They are then able to prepare suitable courses based on their own training and on the special uses to which the machines are put by the firm.

Senior Grades.—Office staff who enter with a good Grammar School or Public School education usually aim at a specialised professional qualification. The following are some of the branches which can be followed: accountancy, advertising, buying, personnel management, company secretarial practice, sales management, statistics, transportation. There are professional associations covering all these activities and setting standards for examinations. Courses which lead to the associateship examinations can be pursued in many commercial institutes and colleges.

General commercial qualifications are becoming increasingly popular. There is a three years' course for a National Certificate in Commerce, which is held at many commercial colleges and can be taken without the student having attained any specific previous standard of general education. The National Certificate in Commerce is administered by the Association of British Chambers of Commerce in conjunction with the Ministry of Education, and the syllabus can be varied to meet the needs of any particular district. It usually includes: English, Business Economics, Accounts, Mathematics, Statistics, and General Law. The Higher National Certificate may also be taken, specialising in a more limited field. For the more ambitious student who has matriculated, there is the external degree of the University of London—either Bachelor of Commerce or B.Sc. (Economics). These cover similar subjects to a more advanced stage.

Study for any of these specialised or general qualifications is usually pursued entirely in the evening. A few firms allow time off work for regular study and for an intensive "cram" immediately before examinations, but these are exceptional. As a general rule office workers are not granted the same facilities as trainees who are following the traditional apprenticeships. Less attention is paid to their training within the firm, and in the commercial institutes and colleges the courses are limited and the standard of teaching frequently not very high. It is to be hoped that the implementation of the clauses of the 1944 Education Act concerning further education will lead to a higher standard of office training among all grades and throughout the country.

THE NEEDS OF SELLING STAFF

The distribution of commodities as a distinct and separate sphere of activity only assumed the proportions of an important national occupation in the early nineteenth century. Previously it had been an adjunct of production in each particular trade and the guilds had strict rules limiting or even prohibiting the activities of entrepreneurs. Thus the trainee salesman was not usually confined to selling alone, but also carried out either the whole or the final stage of manufacture. He was protected from exploitation by the traditions and rules governing apprenticeship, and had every opportunity to qualify as a master craftsman. The Industrial Revolution resulted in the need for large-scale distribution, and wholesale and retail selling developed accordingly. It reached its peak in 1939 when 23 per cent. of all male and 24 per cent. of all female juveniles leaving school entered the distributive trades. The figures have fallen very considerably, but it is still the occupation with the largest numbers in the country.

In the latter half of the nineteenth century, apprenticeship ceased to exist in fact, though it remained in name as a pretext for the payment of nominal wages. Working hours were such as to preclude all possibility of evening

study. Even in the nineteen-thirties, working hours were still much longer than in most other occupations and the late closing time made attendance at classes difficult. Today, conditions are very much better, though the gradual return of later closing hours may again make attendance at evening classes difficult, especially for suburban shop assistants wishing to travel to the centre of a large city.

Training within the retail business is limited to the large stores, to the Co-operative Societies, and to certain multiple shops. In the large stores, training can be given in short periods extending over a comparatively long time, while in the case of small units with a wide geographical distribution it is usual to have one or more central training establishments which give intensive full-time courses lasting for a period of a week or so.

The training of selling staff falls into three sections: knowledge of merchandise, knowledge of departmental routine, and skill in salesmanship.

Merchandise Knowledge.—A sound knowledge of his merchandise is an essential for every salesman if he is to give the service which customers want. He should know about the commodity in use rather than how it is made. For example, in the case of clothes he is not concerned with the wool from Australia or even with the details of the manufacture of the cloth or of the garment. The customer is not interested in these things, but in answers to some of the following questions:

1. How does the quality of the material compare with other materials?
2. How will it stand up to wear—will it keep its shape and colour, will it lose its surface, will it wash?
3. Is the workmanship good—are the trimmings well finished?
4. Is the style suitable—is it in keeping with the customer's background, age, etc.?
5. Is the style, colour, etc., fashionable? Is it a passing fashion or likely to be in vogue for some time? Is it exclusive? Is it novel?
6. Will it be comfortable and warm—or cool?
7. Will it be serviceable—can it be worn in the city and in the country, in the morning and in the evening?
8. Is it good value for the money?
9. Is the maker's name well known? Has he a good reputation?
10. Is there a guarantee?

The salesman must know all the answers to these and similar questions, and have the skill to sense which are important to the particular customer. Too often training in knowledge of merchandise has been concerned exclusively with background information which had little bearing on the salesman's problem—the satisfaction of the customer. Knowledge of Australian dairy-farming or Kenya coffee-growing is, no doubt, of interest to some people, but the customer wants to know: Is the Australian butter as good as English, will it keep, does it retain its vitamin content; is the Kenya coffee as good as Brazilian, what is the best way to make and serve it?

Background information on the origin and manufacture of the commodity

is easy to come by and easy to impart. It is much more difficult to provide answers to all the varied questions which customers may ask. In fact, a good salesman goes on learning new answers all his life. A training department in a large store requires the co-operation of the supervisory staff in every department in preparing merchandise manuals which can be used as a basis for training, and the training can only be done centrally if the numbers merit it. In a multiple firm where the range of commodities is limited and standardised, the merchandise knowledge can be taught centrally and incorporated in the salesmanship instruction. Whatever the centralised training service may be, the continued imparting of merchandise knowledge is a responsibility of departmental supervisory staff, and an increasing number of firms are recognising that the supervisory staff need encouragement and help in passing on their knowledge to their staff. Training Within Industry Job Instruction is helpful in bringing home to them the need for instructional work on their part.

Knowledge of Routine.—The second need of the salesman is knowledge of departmental routine, which includes the clerical and financial procedures involved in the sales transaction, stock-keeping, departmental display, wrapping of parcels, etc. The clerical and financial work can be taught centrally in a training department, and this is usually done in large stores where new staff go through an introductory course dealing with general information and rules of the firm and including the "store system." The trainees are instructed by demonstration and by actual practice in filling up the bill of sale and the various other forms which are used. Sometimes a test is given at the end of the course before the new salesman is permitted to use a sales book. As stock-keeping, display and wrapping of parcels all vary from department to department, in a store these are best taught departmentally by the departmental staff or with their aid. In the case of a multiple firm, these can again be incorporated along with instruction in salesmanship and merchandise.

Salesmanship.—Skill in salesmanship is the third need. In some of the multiple firms training in this art is given to all sales people. No matter what their previous experience may be, they are given an initial course, followed by regular refresher courses. The method used is "demonstration sales" carried out by the training staff, followed by actual practice sales by the trainees, selling to the instructor and to each other.

In stores a similar method is used, but the training is usually given only to junior staff. In a store where many classes of merchandise are sold, it is much more difficult to formulate a salesmanship course which is applicable to all departments. Merchandise must be selected for training purposes which will illustrate principles which are common to all departments. A good method of helping the trainees to become aware of their own deficiencies and to improve their technique is to get the group to rate each other's performance on points such as the following:

- | | |
|---|---|
| (a) Appearance and deportment—ease of manner. | (g) Skill in handling and displaying merchandise. |
| (b) Speech — clarity, correctness and fluency. | (h) Skill in guiding selection. |
| (c) Tact and courtesy. | (i) Skill in suggesting alternatives. |
| (d) Skill in winning customer's confidence. | (j) Skill in handling price. |
| (e) Ability to discover customer's needs. | (k) Skill in dealing with objections. |
| (f) Skill in bringing out correct selling points. | (l) Ability to suggest additional purchases. |
| | (m) Skill in closing the sale. |

In the discussions which follow the demonstrations and practice sales, the instructor brings out the important points under the four steps of the sale: 1. approaching the customer; 2. discovering customer's need; 3. meeting the need and guiding to a choice; 4. closing the sale.

Masses of literature have been written on salesmanship, and attempts have been made to classify human beings into types so that the salesman can decide on the category into which his customer falls and treat him accordingly. In the writer's view such methods can only lead to disastrous errors in the numerous cases where the system of classification breaks down. A much more fruitful line of approach is to give a general training in human tendencies and motives which is helpful in providing a clue to the varying needs of different individuals in different circumstances.

A limited amount of training for the retail trade has been provided by the Local Education Authorities, but it cannot be said that the vocational needs of employees have been catered for to the same extent as in other branches of commerce. In London the Technical Institute for the Distributive Trades provides courses in several branches of merchandise (e.g. textiles, boots and shoes, and food products), in "Principles of Retail Distribution," in Salesmanship, in Advertising, Display and in Merchandise Control. It is likely that this range will be extended in the near future. In other commercial colleges and institutes a more limited range of courses has been available, and they have not always been entirely successful. The requirements of the Education Act 1944 for Further Education should lead to the development of higher standards and more extensive facilities for retail training, including a greater proportion of day-time classes. This should be of particular benefit to the small business which is unable to provide for its employees the facilities which the large store or multiple concern can make available. Also, when the County Colleges are established, there will be a demand for a great extension of facilities for retail instruction to cover the five-eighths of the day which can be devoted to vocational education. Existing colleges and institutes catering for the retail trade will provide the second- and third-year County College courses. Existing courses usually aim at the examinations of the City and Guilds of London Institute or specific trade qualifications. These cannot, however, be said to be generally recognised and widely adopted.

Wholesale Selling Staff.—Much of what has been said concerning the

retail business applies equally to salesmen who are selling for a manufacturer or wholesaler. There is, however, less training in salesmanship provided by manufacturers and wholesalers than by large retailers—a notable exception being the vacuum-cleaner industry. The majority of wholesale salesmen do, however, receive incidental or specific training in the merchandise which they sell. In the case of certain speciality commodities, this may be very extensive and may even require the background knowledge provided by a Bachelor of Science degree. The tendency both in retail and wholesale selling is towards the provision of an enlightened service to the customer and away from the so-called high-power salesmanship which took no account of building up the goodwill of the concern as a basis for future sales. A certain amount of training for wholesale salesmanship is provided by Local Education Authorities but more adequate facilities should result from implementing the 1944 Education Act, as in the case of retail.

THE NEEDS OF THE SUPERVISOR

In previous sections we have seen how the needs of various types of workers can be catered for by education and training. The psychological welfare of workers is, however, very much affected by the people under whom they work, as well as by their individual training and education. It is therefore of fundamental importance for a firm to have a well-trained team of supervisors, the word "supervisor" being used in its widest sense to cover production department managers, foremen, charge-hands, office managers, head cashiers, selling-department managers and so on.

The first attempt to organise a comprehensive course for foremen and other factory supervisors was made in 1933, when the South-East London Technical College inaugurated a course. After an experimental period of five years, a standard syllabus for a two years' course was evolved in co-operation with the Institute of Industrial Administration, which awarded a certificate to candidates who passed the sessional examinations. The demand for this course was small until 1941, when Mr. Ernest Bevin became Minister of Labour and National Service and sponsored an abridged course in technical colleges and institutes in all parts of the country. Within six months of the inception of the Ministry of Labour scheme five thousand supervisors were attending. The syllabus was as follows:

General Principles of Foremanship and Supervision.—Development of modern industry; factory organisation, the foreman's job—organisation, specialisation and co-ordination; supervisory leadership, functional and departmental supervision, technique of supervision, qualifications for supervision and how to improve.

Principles of Production Organisation and Planning.—Scope of production organisation and planning, departmental responsibility; design and layout, plant, jigs, tools, etc.; inspection; production control, stock control, process-planning and rate-fixing, progress-planning, storekeeping.

Elements of Personnel Management.—Personnel management as a function of industry; organisation and duties of a personnel department—selection and engagement; training; promotion; termination; welfare and social amenities; industrial legislation; joint consultation; industrial psychology; the supervisor's contribution to a sound personnel policy.

Costing and Remuneration.—Objects of costing as an aid to management; how a cost is constructed, cost data, standard costs; overheads or on-costs, time-bookings, pay-roll compilation; rate-setting and operation-planning; time study.

Prior to the war very few British firms had any form of supervisory training, and those which had tended to concentrate on the conference method of instruction. The war, however, stimulated the development of supervisory training within industry itself as well as in the technical colleges, and many war factories introduced concentrated short-term courses on a syllabus similar to the above. These courses had the advantage of being specifically related to each particular industry, thus providing concrete information illustrated by examples from the supervisor's own field of experience. The main drawback of the Institute of Industrial Administration course is its general and theoretical character. The majority of supervisors are not educated to think in terms of general principles. They thus found the technical college lectures remote from their everyday experience and frequently failed to relate the principles which were taught to their supervisory job.

Training Within Industry.—This difficulty was overcome in the United States by the development of the Training Within Industry Service under the auspices of the War Manpower Commission. The Training Within Industry technique is based on the Socratic method, and was first applied to industry in the Great War when technicians were given short courses to make them proficient as vocational teachers. In 1940, shortly after the fall of France, the Training Within Industry organisation was set up with the following objects:

"To assist defence industries to meet their manpower needs by training within industry each worker to make the fullest use of his best skill up to the maximum of his individual ability;

"To render specific advisory assistance to defence industries in inaugurating programmes which they will carry on within their own plants at their own expense."

The organisation worked as a training consultant service to industry until August 1941 when it became evident that much of its work was wasted because of the inability of industry to implement the advice. This led to a decision to concentrate on supervisory training. The first programme to be developed was Job Instruction, which has already been described under subsection 2 on "The Needs of the Semi-skilled Worker." By October 1945 over a million supervisors had been successfully trained in Job Instruction.

Job Methods was launched in September 1942 and by October 1945 a quarter of a million supervisors had been successfully trained.

The Job Methods programme is concerned with training the supervisor to make the best use of available machines, equipment, materials and workers. It includes an initial demonstration of a job badly handled, illustrating poor use of a machine, much unnecessary movement of the operator and waste of materials. The improved method is then demonstrated and the principles of elementary motion study are built up as follows on the basis of the example:

Step I—Break Down the Job

1. List all details of the job exactly as done by the present method.
2. Be sure details include all material-handling, machine work, hand work.

Step II—Question every Detail

1. Use these types of questions:
Why is it necessary?
What is its purpose?
Where should it be done?
When should it be done?
Who is best qualified to do it?
How can it best be done?
2. Also question the
Materials, Machines, Equipment,
Tools, Paper-work, Design, Layout,
Work-place, Safety, Housekeeping.

Step III—Develop the New Method

1. Eliminate unnecessary details.
2. Combine details when practical.

3. Rearrange for better sequence.

4. Simplify all necessary details:

To make the work easier and safer—lay out materials, tools and equipment at the best places in the proper work area; use gravity-feed hoppers and drop-delivery chutes; let both hands do useful work; use devices instead of hands for holding work.

5. Work out your idea with others.

6. Write up your proposed new method.

Step IV.—Apply the New Method

1. Convince your own supervisor.
2. Submit for approval on safety, quality, quantity and cost.
3. Convince the operators.
4. Put the new method to work. Use it until a better way is developed.
5. Give credit where credit is due.

The Job Methods programme is most readily applied to manual and simple machine operations but it has also been extensively and successfully used in clerical work. It is not a substitute for the introduction of scientific motion study. Indeed, it has been found of great assistance to the motion-study engineer in getting co-operation in the development and application of new methods. One of the greatest obstacles which a motion-study department has to overcome is the resistance of line supervision and operatives. This is due to natural human conservatism, but also to the unfortunate association of motion study with the cutting of piece-work rates. Training Within Industry Job Methods can do much to break down prejudices by providing simple explanations which remove widespread ignorance and misunderstanding.

The Job Relations Programme was the last of the three to be developed, to meet the supervisors' need for help in handling people. It was launched in February 1943, and nearly half a million supervisors had been trained by October 1945. It follows similar lines to the other programmes, except that the elementary principles for good industrial relations are given at the beginning

of the course and only referred to incidentally in the later stages. These principles are: (a) Let each worker know how he is getting along; (b) Give credit when due; (c) Tell people in advance about changes which will affect them; (d) Make the best use of each person's ability; (e) People must be treated as individuals.

At the present stage of our industrial and political development in Britain, when all political parties, the employers' federations and the trade unions are all agreed that conditions are ripe for the introduction of some measure of industrial democracy, it would seem that item (c) hardly goes far enough. People not only expect to be told in advance about changes which will affect them, they want to be consulted before the decision to introduce a change affecting them is made. Employers claim to be consulted by the Government before a new law or Order in Council affecting their business is introduced. Senior executives expect to be consulted by their managing director before a decision is arrived at, and so on down the line to the foreman in his relations with his workpeople.

Item (d)—"Make the best use of each person's ability"—might also be amplified. Little help is given as to how the supervisor should set about the difficult task of vocational guidance within his department.

However, the main value of Job Relations lies in the four-step method for handling problems. An example is given of a human problem badly handled, and this is used as a basis for establishing the following scheme:

HOW TO HANDLE A PROBLEM

Determine Objectives

Step 1.—Get the Facts

Review the record.
Find out what rules and customs apply.
Talk with individuals concerned.
Get opinions and feelings.

BE SURE YOU HAVE THE WHOLE STORY.

Step 2.—Weigh and Decide

Fit the facts together.
Consider their bearing on each other.
What possible actions are there?
Check practices and policies.
Consider the objective and effect on individual, group and production.

DON'T JUMP TO CONCLUSIONS.

Step 3.—Take Action

Are you going to handle this yourself?
Do you need help in handling?
Should you refer this to your supervisor?
Watch the timing of your action.

DON'T PASS THE BUCK.

Step 4.—*Check Results*

How soon will you follow up?

How often will you need to check?

Watch for changes in output, attitudes and relationships.

DID YOUR ACTION ACHIEVE YOUR OBJECTIVE?

Further problems are used to illustrate the importance of each particular step, and the trainees themselves produce their own problems, to which the method is applied.

Training Within Industry Job Relations is undoubtedly a most valuable contribution to the improvement of human relations in industry. Its value lies in its insistence on immediate application to the supervisor's own problems. Lectures of the normal type on aspects of industrial psychology are frequently ineffective because the advice given is abstract and intangible. Even if the substance of the lectures is amply illustrated with good examples, it is still something different from the supervisor's own experience. Though the bearing on his own case is evident, there may be a resistance in his mind which prevents him seeing the application. Job Relations brings home to him the direct application to the problems facing him on the job.

Training Within Industry was introduced into Britain in September 1944. For a considerable time the directors of Hoover Ltd. and Kodak Ltd. had been urging the Government to take it up, but it was not until it was too late to help war production that the Ministry of Labour and National Service was prevailed upon to send a representative to the United States to study the scheme. On his return this official established a department to provide a service to industry which is now operated on a regional basis. For smaller firms the Ministry provides a trainer who conducts the courses for the supervisors within the firm. Each course takes ten hours—five two-hour sessions held in one week—with ten supervisors attending. For larger firms the Ministry gives a full week of intensive training to the firm's own nominee, who in turn trains the firm's supervisors. Up to February 1947 the numbers of supervisors who had successfully passed through the course in the British Isles was:

Job Instruction . . .	67,739
Job Relations . . .	17,721
Job Methods . . .	2,478

Comparison with the American figures, taking into account difference in population, reveal that British industry has been slow to avail itself of the benefits of Training Within Industry, though most of the 870 firms which have adopted it assert that the results have been good.

Full details of the service can be obtained by contacting the Regional Controller of the Ministry of Labour and National Service in the region in which the business is situated.

The Value of Training Within Industry.—Within the limits of its field of operation Training Within Industry has done much to popularise training

and gain acceptance for the idea that it is something which should take place during working hours as part of the serious business of the firm. The Training Within Industry programmes make it clear that their scope is limited and that they are not concerned with knowledge of the actual work or of the firm's policies and practices and of supervisory responsibilities; and numbers of firms have recognised this and have augmented Training Within Industry with training in other aspects of supervisory work. On the other hand there is a danger, which has become evident, that firms come to regard Training Within Industry as a training panacea. The fact that a firm's supervisory staff have taken the three Training Within Industry programmes means nothing at all unless they are applying what they have learnt and unless it has stimulated the development of further training and educational activity both within the firm and outside.

The curriculum for supervisory courses within the firm should be based on a careful analysis of the job concerned. This can be made by the Education and Training Officer attaching himself during the entire day or shift on several occasions to several individual members of the supervisory team. He should choose these individuals with the object of obtaining a representative cross-section and gaining an impression of normal average supervisory practice. He should make a record of the following information:

(a) The routine followed and the times taken on each task.

(b) The duties which the supervisor delegates to people in his charge, those which he carries out himself and those on which he seeks a decision from above.

(c) The background knowledge required for the efficient performance of all duties (knowledge of firm, its people, policies, procedures, etc.).

An investigation of this kind usually reveals that supervisors, even in the same grade, vary greatly in their conception of their job and in their mode of carrying it out. It is necessary to review the existing practices and conceptions of the job, consider contradictions and differences, and arrive at a uniform interpretation of duties with the aid of specialist executives and, if necessary, of management.

Having arrived at an agreed curriculum, the Education and Training Officer should not attempt to impart all the information himself. He should obtain the services of the firm's experts wherever possible and, if necessary, obtain assistance from outside. It is useful, however, that he, himself, or members of his own staff should cover a number of subjects, for the practical reason that they can step into the breach at short notice if one of the experts from outside the training department should default.

Supervisory courses within firms can be covered either by an intensive full-time syllabus or in periodic sessions which may be as short and infrequent as one hour per month. Opinions vary as to the optimum period. The advantages of full-time training are: firstly, that the supervisors are completely freed from the distraction of intermittent departmental duties and,

secondly, that they have a chance to stand back from their work and take stock of their position, and perhaps return to it to take up their duties again with a fresh outlook. The main disadvantage is that it is difficult for people with little previous experience of study to adapt themselves to full-time absorption of knowledge. Supervisors are usually men of action, unaccustomed to a sedentary life which they find irksome. Probably the most satisfactory arrangement is a session of three hours per day with a short break for refreshments, but the length of the session may have to be adapted to the exigencies of production work, especially in the smaller firm with few supervisors capable of taking responsibility.

Courses of this kind have been found to be of value not only to the supervisors but also to the specialists who act as instructors. By having to give a talk on some aspect of their work they are forced to examine their position, look at things from the point of view of other people in the firm and possibly refresh their minds on points they have tended to neglect. The interchange of ideas between the instructor and the trainees is by no means all in one direction. It has been found that many misunderstandings have been cleared up and opinions revised by discussion, to the mutual benefit of all concerned.

EDUCATION AND TRAINING FOR MANAGEMENT

Mr. Ernest Bevin has said that, when visiting a factory as a trade-union official, he could always discover the kind of management with whom he was about to negotiate by a brief visit to the floor of one of the workshops. The attitude at the top was reflected right down through the various grades of supervision to the rank-and-file worker. This is a universal experience—efficient and humane management breeds efficiency and humanity throughout; ignorant and autocratic management has a vested interest in a secretive and dictatorial supervisory staff. The welfare of an organisation, therefore, depends very much upon the standard of its management, and education and training for this all-important function is a first priority at the present time.

Too frequently people have been, and still are, promoted into managerial positions because of their specialised skill as accountants, chemists, engineers, etc., or because of seniority, family connections or financial interests. This has not made for efficient management, nor has it encouraged the development of a professional status and an organised body of knowledge of managerial technique. However, before the War a number of professional bodies included managerial subjects in their associateship examinations and the Institute of Industrial Administration had set up standards for its four grades of membership—Associate, Associate Member, Member and Fellow. Technical colleges were providing instruction for the special needs of the professional bodies and for the Institute of Industrial Administration examinations in various centres.

The Urwick Report.—In 1946 a committee under the chairmanship of

Lieutenant-Colonel Urwick was set up "to advise the Minister of Education on educational facilities required for management in industry and commerce, with particular reference to the steps to be taken in regard to the organisation of studies, bearing in mind the various requirements of professional organisations and the need for their co-ordination."

The professional bodies concerned with accountancy, advertising, buying, engineering in all its branches, export, office management, personnel management, sales management, transport, and works management were called into consultation together with the Institute of Industrial Administration, and a report has been issued which includes a syllabus which is recommended as the common Intermediate Course for Management Professional Institutions and for Technical Professional Institutions which include management subjects in their associateship examinations. The following is a summary of the syllabus:

Part A—Introductory Subjects

A preliminary survey of the field of management and an introduction to the economic background against which modern management practice has developed, dealt with under two headings:

- (a) The evolution of modern industrial organisation and management;
- (b) The nature of management.

Part B—Background Subjects

1. The Economic Aspects of Industry and Commerce.

A study of the business world and of the part which individual businesses play in the productive process and in service to the community covering the following aspects: Production and Distribution, the Factors of Production, the Optimum Size of an Undertaking, the Chief Types of Business Organisation, Money and Credit, the Localisation of Industry, Trade Cycles, Home and Export Trade.

2. The Legal Aspects of Industry and Commerce.

A study of those aspects of the law which concern the processes of industry and commerce and the personnel employed.

3. The Psychological Aspects of Industry and Commerce.

A training in the art and science of handling people: an introduction to General Psychology showing its application to the human problems of industry and commerce; Industrial Psychology—the measurement of individual differences and their application; Social Psychology and its application to the working group and group relationships.

Part C—The Tools of Management

1. Financial Accountancy and Cost Accounting.

A training in the use and interpretation of all forms of accounts used in various types of undertaking, and an explanation of the principles underlying their compilation dealt with under the following headings: Accountancy, Costing, Organisation of Cost Department, Average Costs and Price Fixing.

2. Statistical Method.

A study of the application of simple statistical method to the assessment of data, both general and available within a firm, covered under the following: Scope and Application of Statistics, Statistical Devices, Statistics of the Individual Firm, and Current Sources of Statistics.

3. Work Measurement and Incentives.

A study of the principles underlying modern methods of work analysis and measurement, and of the incentive systems based on data so obtained, with particular emphasis on the human and social problems involved, covering Motion Study, Time Study, Incentives and Job Evaluation.

4. Office Organisation and Method.

An introduction to modern methods of dealing with clerical work under the following headings: The Clerical Function, Planning and Operating the Service, Equipment, Personnel and Control of Operations.

A syllabus was also drawn up for a Final Examination and recommended for those wishing to qualify in General Management:

I. Factory Management

Presentation of the problem of factory management at the higher levels—formation of sound policy and its translation into successful action requiring understanding of the functions and inter-relations of all departments, studied under the following headings: Formation and Development of a Manufacturing Undertaking; Functional Responsibilities of Departments within the Factory; Relations with Other Divisions of the Undertaking.

II. Distribution

Review of the distribution function and its relation to other activities in the organisation, and consideration of some problems faced by market executives, dealt with under the following headings: The Scope of the Distribution Function; Policy Problems; Organisation and Control.

III. Development and Design

A study of the principles governing efficient and progressive development and design of the product, under the following headings: Research; Development; Design.

IV. Purchasing, Storekeeping and Transportation

An explanation of the principles and procedures underlying modern practice in the purchase of materials and commodities, their receipt and storage, and a study of the problems involved in their transportation, dealt with under the following headings: Purchasing; Purchasing Machinery; Stock Control; Control; Transportation.

V. Personnel Management

A training in the principles which govern the drafting and the application of a personnel policy within an undertaking, under the following headings: Policy; A Personnel Department; Remuneration and Consultation; Social Factors.

VI. Higher Business Control

A survey of the main groups of facts relating to past, present and future conditions, and to show how their correct appreciation underlies both the initiation of sound policies in all fields of business activity and the exercise of effective control, under the following headings: Business Finance; The Business Cycle; Controls.

VII. Management—Principles

A study of the theory of management and of the achievements of men and women whose work has produced the modern pattern of management: Evolution of Methods; Contributions of Pioneers from F. W. Taylor to B. S. Rowntree; Terminology; Problems of Function and Organisation; Social Responsibilities of Management.

VIII. Management—Practice

A review of the responsibilities and practice of management, with special reference to the higher levels, linking up the functional aspects of management discussed in other parts of the course: The Structure of Organisation; The Formulation and Interpretation of Policy; Ensuring Co-ordination; "Standards" for Planning and Control; Research; Public Relations; The Human Element.

The Management Professional Institutions (Works Management Association, Institute of Personnel Management, Office Management Association, etc.) are recommended to relate the syllabus for their specialised final examinations to the General Syllabus given above and to include sections VII and VIII. Specialist Managers who have qualified by taking the specialised final examination of their professional institution may proceed to qualify over the general field after an "appropriate interval."

A summer school for Management Teachers was held under the auspices of the Institute of Industrial Administration at Oxford during the summer of 1947 at which the implementation of the Urwick Report was discussed and general agreement was reached regarding the adoption of the syllabuses by the majority of technical colleges for the session 1947-8.

The main problem facing the principals of technical colleges is the provision of teachers of a sufficiently high standard of practical attainment and teaching ability. The scale of remuneration is too low to induce a busy and competent business executive to devote the necessary time, and up to the present this type of teaching has been largely a labour of love. Most of the courses will be held in the evening, though it is recommended that day-time study be introduced where possible.

In addition to these arrangements for part-time study, a full-time course was introduced at the Administrative Staff College which opened in March 1948. This course is of three months' duration, is residential and intended for people who have already attained managerial positions of some standing. The students pursue their studies largely by means of the conference/case method, though there are regular lectures by eminent industrialists and recognised specialists in various matters directly or indirectly bearing on the field of study.

Full details can be obtained from Principal Noel Hall at the Administrative Staff College, Greenlands, Henley-on-Thames.

Early in 1946 the Ministry of Labour and National Service sponsored a Business Training Scheme for men and women whose careers had been interrupted by national service and who would otherwise have been working up to executive and administrative posts. The General Business Course lasts for three months and covers the following subjects :

1. The Structure of the Business World.
2. The Individual Business Concern.
3. Human Aspects of Business.
4. Economic Aspects of Business.
5. Accounting—Financial and Statistical Aspects of Business.
6. Legal Aspects of Business.
7. Study of Typical Practical Problems of Business with the Assistance of Business Men.

The General Business Course is conducted in technical colleges and is

EDUCATION AND TRAINING

followed by a Specialised Business Course lasting from six months to two years according to the nature of the business. Specialised Courses are arranged by single firms and by groups of firms, and they cover the whole field of activities of the industry with periods of practical experience in each department. A maintenance grant is paid by the Ministry of Labour and National Service during the period of training. Details may be obtained from the Appointments Departments in each region of the Ministry.

Conferences and Literature.—In addition to these fully organised schemes of training for various grades of management, there are numerous conferences and lectures held by professional, trade and scientific associations, and a wealth of literature is published on all aspects of management. An Education and Training Officer who is covering the full scope of the work should keep his management informed on all relevant conferences and lectures, either by arranging for their attendance or reporting on them himself. He should also supply a management information service, including the journals and other publications of the professional and trade associations concerned in the business. Much of the literature is repetitive and some of a poor standard, and his department may perform a useful service by abstracting or annotating the really useful material and thus saving the time of busy executives. Such a service is a continuous reminder to Management of the work of an Education and Training Department, and is helpful to its prestige by disabusing their minds of the persistent idea that its main concern is apprentices and juniors.

ADULT EDUCATION

As explained in subsection 2 above, the Local Education Authorities now have a duty to provide cultural and recreative educational activities for adults as well as vocational education, and forward-looking industrialists also feel a measure of responsibility for the development of their employees as individuals and citizens as well as for their training as workers. As stated in the Ministry of Education's pamphlet "Further Education": "If a great extension of technical education is essential to the well-being of our economic life, so equally is a wide development of general adult education if we are—as individuals and as a nation—to deal competently and democratically with the complex questions of our time, or to develop those interests and activities which go to making a full and satisfying life."

Some firms have, by management initiative, developed adult education either within working hours or in the evening or on a fifty-fifty basis; for example, by extending the lunch break. Such efforts, though often entirely disinterested, frequently meet with a poor response. People resent anything which may savour of charity or uplift imposed from above. Adult education within a firm can best be developed by fostering the idea among members of the works or staff council and letting the demand grow from small

beginnings among the workers themselves. If the workers run their adult educational activity themselves, with only help and advice regarding speakers, etc., from the Education and Training Officer, there is a much greater chance of success. If they have to pay a small fee to attend, so much the better. There are, however, many people who prefer to spend their leisure hours entirely outside their place of work and who are attracted much more by classes organised by the Local Education Authority, the extra-mural department of a university or some other educational body. It may be that the best service which a firm's Education and Training Department can give is to provide full information on existing facilities and to foster the provision by the authorities of any special activities for which there is a demand or a need. The majority of people are ignorant of the educational facilities which are available to them, and an Education and Training Department can do much to sell the idea that there is something suitable and attractive for all tastes. In the late summer a series of posters should be exhibited, and copies of the local authority's guide to evening classes for the ensuing session circulated to all departments. It should be made known that the Education and Training Department will supply advice and help individuals to decide on the most suitable courses to pursue. Such advice should be based on an assessment of the individual's education, intelligence, aptitudes and interests, and newcomers to adult education should be dissuaded from attempting anything too ambitious which might discourage them. It is useful to persuade young people living in restricted lodgings or single furnished rooms to attend a class in any subject whatsoever which will bring them into contact with others and give them a wider interest. Some firms pay the fees of all employees attending non-vocational classes, some limit payment to those under twenty-one, some pay part and some nothing at all. Since fees are not high, it is probable that part payment is the best arrangement, as something entirely free is seldom appreciated. Being allowed to leave work early enough to get some food before attending a class is a concession which is much appreciated. Probably such a service as this, which requires nothing more from the firm than information, advice and small concessions, is more useful to all employees than the provision of special classes within the firm. It can be provided equally well by large and small concerns, and it avoids uneconomical duplication of educational facilities in the district. It is, however, less spectacular for a firm which wants to make an impression by the munificence of its welfare services.

The number of people attending evening classes had increased from 57,000 in 1938-9 to 70,000 in 1943-4 and there have been considerable further increases since then. The education provided by the Forces and in Civil Defence has brought about a change in outlook. The great majority of adults no longer think of "education" as applying only to children and to supposedly dull people in universities. But this change has only just begun. It has tremendous potentialities if it is fostered, but the standard of teaching

and of accommodation is sometimes such as to kill all latent enthusiasm. There is too much adherence to the conventions of the old-fashioned school-room; too much lecturing and too little discussion; insufficient utilisation of visual aids. The Ministry of Education is planning for the provision of fine buildings and more numerous and better-trained staff in the future, but much can be done now by industrialists and other key citizens taking an active interest and co-operating with the more enlightened local authority officials in an effort to infuse a new spirit into the existing system.

Adult education should, however, not be thought of only in terms of evening classes. An education and training department can do much to stimulate an interest in museums, theatres, exhibitions, broadcasts and visits to places of cultural interest. The facilities of the public library nearest to the place of work should be made known to workers. Frequently they are unaware of its whereabouts, of the procedure for finding books on subjects which interest them, and of the fact that they may borrow books though they live outside the area which it serves.

Residential Courses.—Residential courses are also of importance, for they are playing an increasing part in adult education. It has been found that a period spent in a community with a common educational aim engenders a co-operative spirit and fulfils a need for self-expression which adds greatly to the value of the studies undertaken. Residential courses encompass anything from three years at Oxford to a week-end school organised by the Y.M.C.A. Some firms are prepared to release a small number of talented employees and support them during a full-time course at a University or College of Art or Music in an endeavour to implement completely item 3 of the education and training policy detailed in section 1. But the most fruitful recent development is the establishment of residential colleges which provide courses lasting for three to five days on subjects of general cultural interest. The most notable example of this is the Pendley Centre of Education at Tring, which runs courses in such subjects as: "Art through the Ages," "Foundations of Family Life," "Man and the Unknown," "English Social History." Courses are held both at week-ends and mid-week (from Monday evening to Friday morning). The mid-week courses are attended by employees released by their firms for the purpose, the object being to stimulate an interest among people who would not otherwise take part. Vauxhall Motors Ltd. sent an experimental group of fifteen people to the first course, some of whom "said frankly at the outset that they were not at all sure that it was 'their cup of tea' and that they had no particular interest in this sort of thing." After the course "there was no doubt at all that the scheme had caught on—made a deep impression, in fact." "It appeared that most of the folk who had been to Pendley wanted to pay a return visit" and were prepared to do so in their own time at the week-end. "It is clear from this experience that the Pendley Scheme is doing exactly what it sets out to do—provide an educational cocktail to folk who left school at an early age and have never taken part in very

much, if any, adult education, nor would they normally be persuaded to do so." Adult education is now firmly established at Vauxhall Motors, and it is claimed that it has had a definite effect on group morale and a consequent influence on production.

Many other firms have availed themselves of the facilities offered by Pendley and by similar institutions, with beneficial results. It is evident that technical training is not enough, and that only by catering for the welfare of the whole man can the optimum results be achieved. There is therefore need for close co-operation between those providing cultural education and those concerned with vocational training, between the day school, the County College and the technical college, and between all the forms of education and all types of trade and industry. Only by such co-operation can the country develop its tradition of democratic citizenship and its reputation for first-class manufacturing skill. And only thus can our standard of living be maintained and raised and our future welfare assured.

FILMS AND VISUAL AIDS IN TRAINING AND WELFARE

By Robert N. Paterson

SINCE the end of the Second World War, films and visual aids have become a very important part of the equipment of the Welfare and Works Relations section of Industry. The organisation of a works film section, as well as arrangements for the production of films for a variety of purposes, comes within the scope of the duties of the Industrial Welfare Officer. Films provide not only a pictorial approach to industrial training, but also have a strong link with works welfare in general, for by the use of films it is possible to give visual instruction in such important subjects as industrial health, safety methods in the works, elementary first aid and the more general aspects of the work of the Welfare Department. In short, the film properly used can be a most valuable part of the Welfare Officer's equipment, but it must be used as a part of the general welfare scheme and not as an occasional novelty that has no direct bearing on the work or development of the department.

Why have films so suddenly become prominent in the set-up of Welfare in Industry? Films have for quite a number of years had a small place in technical training and in professional circles, particularly in medical spheres where 16-mm. films¹ have been in use since the early 1920's. It was not, however, until the first year of the war that the essential war production industries and the three Services, in searching for a medium that could present a real visual aspect of training subjects and general industrial facts, turned to the film as a visual aid. It was found that newcomers to industry and recruits in the three Services, many of them by no means young, took time to assimilate facts and technical details when demonstrated during normal lectures. Something more spectacular and visual was needed to impress these difficult points on the minds of men and women who were past the age when the quick assimilation of new knowledge was an easy matter. It was realised that by using films it would be possible to make use of the fact that "Seeing was Believing," and Government Departments and the Services immediately began a big-scale mobilisation of the resources available.

The various producers of documentary films were given the work of producing instructional films for the Army, Navy and R.A.F., as well as for the Ministry of Supply and the Ministry of Information. Special Service film units were formed and mobile units organised for the purpose of showing

¹ In dealing with films as part of the Welfare Department I shall be referring to 16-mm. films, or sub-standard films as they are sometimes called, because this is the only practical size for use in the factory and was the size used extensively by the official film units during the war years.

these films in all parts of the country. Films were made for the Ministry of Supply that taught complete engineering processes, and for the Services films were produced dealing with subjects varying from simple matters of health to "hush hush" films dealing with military operations and new equipment. The Ministry of Information (now the Central Office of Information) set up its own system of mobile units which toured factories and rural areas showing films that dealt with every aspect of the war effort, and at the Imperial Institute was built up the now efficient Central Film Library from whose vast collection of 16-mm. films on every industrial topic industrialists can now borrow.

Thus at the end of hostilities there were not only complete libraries of industrial and training films available but, and perhaps the most important fact, industry in general had developed a completely new conception of the use of films and visual aids. New techniques have been developed by the leading producers of industrial films, learnt during the years of producing training films for the Services. The most important of these is the adaptation of the animated cartoon to explain technical facts and the links between theory and practice. In other words, the film can bring to life the diagrams of the blue-print.

The major problem now facing industries who wish to use films as an aid in Industrial Welfare is not so much the supply of films, as the production of films dealing with the particular problems of each individual industry. I say "major" problem because, so far as the smaller industries are concerned, the making of their own films, without adequate financial means to sponsor production by professional units, can be a very expensive process, although the quality of the completed work is very high indeed and some of the initial cost of sponsoring films can be regained by hiring the film to various companies. For the initial stages of the organisation of a film programme, smaller works and factories will therefore be content to make use of films already available, but, as I will explain later, all Welfare Officers who want to make the most of industrial films should aim at developing their own works film unit. That these problems can be surmounted is now being proved by factories who have already started to make their own films. How these films are made is explained in detail under the section of this chapter devoted to the production of 16-mm. films.

The information given in the section that follows is up-to-date at the time of writing, and it is hoped that by the time this volume has gone to press that the already improving conditions as far as the availability of equipment is concerned will have progressed to such an extent that all factories who wish to purchase projectors will have no difficulty in doing so. In fact, there is definite indication that during 1948-9 16-mm. cinematograph equipment will not only become more plentiful but will be considerably cheaper to purchase.

ORGANISING A FILM SECTION

Preliminary Considerations.—In planning to use films in his department the Welfare Officer must consider very carefully the various purposes served by films in connection with his particular sphere of activities. He must familiarise himself with these various adaptations and prepare a detailed film programme—that is, he must visualise the use of films to cover all fields so that he can work to a plan that has application in all departmental directions. To be content to make, or sponsor, one film, or to show films occasionally and then to allow a time lapse before using them again, will only create momentary interest among employees. The whole idea behind films and visual aids is to make them a permanent supplement to the normal methods of instruction and demonstration.

Before even drawing up a film programme, the Welfare Officer must obtain and tabulate all the available information concerning industrial films so that he is in a position to explain the programme to departmental managers.

1. If films have been used in the factory at any time, were they successful or did they fail to interest the workers?
2. How much money are the Company prepared to allocate to hiring and producing films in accordance with a prepared film programme?
3. Will the Company allocate expenditure to purchase a 16-mm. cinematograph projector, screen and other accessories?
4. What do the various departmental heads feel about the use of training films, so that before discussing with you the building up of the training films side of the programme they have a clear idea of what the training film sets out to do and how it achieves its aim?
5. Does the Welfare Officer clearly understand the principles of 16-mm. projection and the elementary principles of film production?

These five preliminary points are all very important, and the fifth item—the most obvious—is really the most important of all. The Welfare Officer, if he is to make the most of films both as a means of helping his welfare work and as a means of assisting the staff training schemes, must have a working knowledge of 16-mm. projection and be able to supervise the making of films within the works. It is the purpose of this section of this chapter to help the Welfare Officer obtain a general understanding of what is required to organise and run successfully a films section in the factory or works, but some practical instruction is also necessary. How can this practical instruction be obtained? One of the finest ways of learning the art and craft of 16-mm. cinematography is by joining a local film society. These local film societies now function in most districts; their addresses can be obtained from the British Film Institute and their members are skilled amateur film-producers. These societies are always willing to provide instructors, and the Welfare Officer who becomes a member of his nearest local film society will learn many practical aspects of 16-mm. film production.

Taking our other four preliminary points in order, the Welfare Officer

should, if films have previously been shown in the factory, find out whether these were successful or otherwise. He may have been responsible for the organisation of these film shows or, if this happened during the war years, he was probably the liaison between the Films Division of the Ministry of Information and the works. Make a list of the official films that were shown to the workers in your factory during the war years, and by chatting with workers find out their reactions to these. It is possible in this way to gather a lot of useful information, facts which can be most helpful when planning the film programme. For example, many workers may feel that films are a waste of time and that they can learn very little from them. This is probably due to the fact that the only industrial films they have seen have been semi-propaganda films produced during the war years which, although well made, had a definite official tag attached to them. Other workers may feel that industrial films are either too technical or too light-hearted to be really valuable from the practical instruction viewpoint. So when a Welfare Officer plans to produce his own films he should remember this point and see that while the films are in every way practical, they are at the same time interesting. In fact, a little humour is not at all out of place in a factory film.

Next comes the all-important factor of costs. Here is the biggest problem of all, particularly where the smaller industrial organisations are concerned. The small company, for example, is unable to allocate so high an expenditure as an organisation of the size, say, of Imperial Chemical Industries, who sponsor a great number of films each year, and consequently cannot make the full use of the opportunities presented by visual aids. The more practical points concerning costs and how even the smaller industries can make their own films will be dealt with in another section of this chapter.

The Welfare Officer whose company feels that it can only allocate a small sum to the organisation of a film section in the works need not feel too despondent, as there are a great number of sources from which he can draw a supply of instructional films dealing not only with welfare and factory health matters but with works training as well. Firstly, contact should be made with the particular trade organisation that looks after the problems of the industry concerned, in order to find out if they list the films made (and available) in connection with that particular industry. He should also write to the principal producers and distributors of industrial films, particularly such organisations as Gaumont British Instructional, who have a special library of instructional films available on hire to industries, the Central Film Library and other sources of 16-mm. films. A complete list of industrial film distributors, producers and libraries is given at the end of this section. Catalogues and film lists should be filed, and from these other lists are prepared which clearly indicate the title of film, its length, subject-matter and source of distribution. Thus, when the time comes for the regular showing of films in the works or factory, all the necessary information concerning their availability is ready to hand.

Now comes another important point, the purchase of 16-mm. sound-film equipment, for, obviously, without a projector it is impossible to have a films section at all. A projector is even more important than equipment for making films, as it would be an absolute waste of time and money to make films if the factory did not possess means of showing them to the workers. A company would have to be prepared to spend from £250 to £300 for a new sound-film projector, with a possible additional £100 for such necessary ancillary equipment as a screen, spare parts, various stands, supports, etc. If, in the unlikely event of the company concerned deciding that, although they like the idea of films in the works, they do not want to purchase a projector, then one would have to be hired when required.

Here, again, local film societies can be helpful, and can usually arrange for a projector and operator to be available on several evenings a week. This is not by any means a good solution, because if films are to form a permanent part of the set-up of the Welfare Department then a projector will have to be available at all times of the day. It will be found, furthermore, that the cumulative cost of hiring a projector and operator several times a week is far in excess of the initial cost and maintenance of a 16-mm. projector purchased at the beginning of the film programme. Further details concerning 16-mm. projectors and their use and maintenance are given later.

The fourth point—what do the various departmental heads feel about the use of films as a means of training?—is important because so much of the success of a film programme depends on the co-operation of the heads of various departments. A great deal of useful information can be gathered by circulating the following questionnaire among department heads:

1. Would training films, and films explaining the welfare and health schemes now working in this organisation, help the efficient running of your department?
2. What aspects of training do you find present the greatest difficulty to the apprentice, and would films help to impress these facts more forcibly on the mind of the trainee?
3. If it is decided to make training films, what aspects of your department's work would lend themselves to demonstration by film techniques? List the stages of training in your department that require a more visual method of instruction.

When these questionnaires have been returned, the Welfare Officer should form a Works Film Committee composed of the departmental heads, the works manager and other responsible executives, and hold a series of discussions during which the preliminary set-up of the film programme can be planned. The formation of a Film Committee is essential, as the film programme will affect the entire organisation and must be a fully co-ordinated effort.

A stage should now have been reached when the Welfare Officer has accumulated data that cover the most important preliminary considerations. He will have received from the Board of Directors the authority to go ahead with the film programme, he knows how much he can spend on hiring films and later, when the scheme becomes fully organised, how much has been

allocated for producing or sponsoring films, and in his files there should be lists of film libraries supplying industrial films, the titles of films likely to be useful to his organisation and, finally, he has completed questionnaires received from the departmental heads with whom he has subsequently had a series of discussions. He also knows, of course, the particular needs of the welfare and health aspects of the works, and has prepared lists of suitable subjects, together with the films available on such topics as safety first, elementary first aid and general instructional subjects.

It is essential to have these facts at hand when the definite planning of the film programme is started, because these facts answer most of the general queries that are likely to arise during the discussions over the general working of the film scheme. Below will be found a list of film libraries and film units, and beside each name are details concerning their activities, the service they can offer, whether they can hire projectors and other relevant facts.

SOURCES OF INDUSTRIAL FILMS

<i>Source</i>	<i>Remarks</i>
Central Film Library, Imperial Institute, London, S.W.7.	Industrial, educational and Central Office of Information Films: free of charge to approved organisations.
Petroleum Films Bureau, 46, St. James's Place, London, S.W.1.	One of the earliest sponsors of industrial films.
British Electrical Development Association, 2, Savoy Hill, London, W.C.2.	Films dealing with electrical and other industrial subjects.
British Commercial Gas Association, 1, Grosvenor Place, London, S.W.1.	Industrial and social welfare.
Dance-Kaufman Films, 18, Upper Stanhope Street, Liverpool.	Educational and engineering subjects.
The British Film Institute, 4, Great Russell Street, London, W.C.1.	Home of the National Film Library. Can help and advise on industrial film matters.
British Council Films Dept., 4, Great Russell Street, London, W.1.	Documentary and instructional films dealing with British industry.
Aluminium Development Association, 67, Brook Street, London, W.1.	Films dealing with the aluminium industry.
G.B. Film Library, Aintree Road, Perivale.	Can hire films to works and factories on all subjects, both instructional and general interest.
Kodak Medical Library, Royal Society of Medicine, Wimpole Street, London, W.1.	Films on medical and health subjects.

LEADING PRODUCERS OF INDUSTRIAL FILMS

<i>Company</i>	<i>Remarks</i>
The Film Producers' Guild, Guild House, Upper St. Martin's Lane, London, W.C.2.	Composed of seven specialist units, all of whom have had long experience of industrial film-making.
Federation of Documentary Film Units, Soho Square, London, W.1.	Similar in organisation to the above.
British Instructional Films, Associated with Pathé Pictures Ltd., Film House, Wardour Street, London, W.1.	One of the pioneers in visual aids.
Films of Industry, 106, Regent Street, London, W.1.	Producers of technical and scientific films.
Furneaux-Weber Ltd., 130, Mount Street, London, W.1.	Specialists in the production of industrial films in colour.
Blackheath Film Unit Ltd., 9, North Street, Leatherhead, Surrey.	Industrial and educational film producers.

NOTE.—A complete list of industrial film producers, together with other useful reference material, can be found in the *Kinematograph Yearbook* published by Odhams Press, Ltd.

ORGANISATIONS WHICH COMPILE LISTS OF INDUSTRIAL FILMS

Association of Special Libraries and Information Bureaux, 52, Bloomsbury Street, London, W.C.1.	This organisation has published a catalogue of films of scientific interest. Price 5s.
Scientific Films Committee, Association of Scientific Workers, 73, High Holborn, London, S.W.1.	
Film Committee, Industrial Welfare Society, 14, Hobart Place, London, S.W.1.	
Film Committee, Iron and Steel Institute, 4, Grosvenor Gardens, London, S.W.1.	

Useful Facts concerning 16-mm. Films.—Before making use of the facts gathered during the preliminary considerations and formulating the actual film programme the Welfare Officer should make himself fully conversant with the elementary technicalities of 16-mm. films. As already suggested, he should join the local film society and attend all their meetings, for in this way he will come into direct contact with keen 16-mm. film experts who have learnt by experience how to produce and use films with only a very low budget to work with. Furthermore, he will have the opportunity of hearing lectures by prominent members of the film industry.

Until the war years created a demand for a film-size that had many more practical uses and certain additional qualities, sub-standard film, by which is meant any size film that is less than the standard 35-mm. film used in normal cinema performances, was used mostly by amateur cinematographers and by professional organisations, particularly the medical profession, for purely specialised purposes. Before the war, other sub-standard sizes such as 8-mm. and 9·5-mm. were used by amateur cinematographers, but for all practical purposes the 16-mm. sub-standard film has gradually become the recognised size for small-screen film-shows; in fact, 16-mm. films have become recognised by the British film industry as a very valuable part of British film production. Such well-known organisations as that of J. Arthur Rank (through its subsidiary Company, Gaumont British Instructional), Pathé Pictures, Ltd. (through its subsidiary, British Instructional Films), the Film Producers' Guild and the Federation of Documentary Film Units (groups formed by the many independent units who made war-time instructional and training films) have all pinned their faith in the 16-mm. film. Manufacturers of cinematograph equipment have all announced new and better 16-mm. projectors and, in fact, from all sections of the film industry there is every indication that sub-standard 16-mm. films are here to stay. This is important from the industrial view-point, for it means that as material and working conditions improve, so will the number of films in 16-mm. increase in number and the initial cost of buying equipment will become less.

The size, 16-mm., refers, of course, to the width of the film in the same way as 35-mm. refers to the width of the standard film used in cinemas. What are the advantages of using 16-mm. film compared with its counterpart, the 35-mm.? The inflammable nature of 35-mm. film and the very strict Home Office rules governing its showing in unlicensed premises, coupled with the fact that 35-mm. projectors are too big and too costly for small film-shows, make 35-mm. film absolutely out of the question for industrial film purposes. The sub-standard film has the following great advantages:

1. It is non-inflammable and can therefore be shown with absolute safety in any room suitably blacked-out and having electric power installed. Again, because of its safety properties, 16-mm. film can be sent through the post in small tins and, of course, can be stored with equal safety.

2. The projectors needed to show 16-mm. films are portable, light in

weight, yet capable of giving an excellent performance to audiences of up to 300 people.

3. Because of the safety nature of the film and ease of storage, it has been possible to build up such huge libraries of films as the Central Film Library, from which centre thousands of films are lent each month to industrial organisations in all parts of the country.

4. From the factory film-unit point of view the 16-mm. cine-camera is a compact little unit which, after it has been mastered, can be used with results that are often comparable with films made in the full size.

5. Films made in 35-mm. film can be reduced to 16 mm. non-inflammable size without reducing to any marked degree the clarity of the original.

6. By using the well-tried Kodachrome film stock it is possible to make excellent colour films on 16-mm. film.

Silent or Sound?—Newcomers to 16-mm. cinematography must remember that there are two types of 16-mm. films issued from libraries—one the silent type and the other the sound film. The silent film has two rows of perforations, one running the length of each side of the film. These perforations run over the guiding sprockets in the projector. The “sound-on” film has only one row of perforations on the right side, the other side being taken up by the sound track, which to the eye resembles a wavy line running the complete length of the film. Each separate picture in a reel of film is called a frame, and in the case of the silent 16-mm. film the reel runs through the projector at a speed of sixteen frames a second. The sound film, however, runs at a speed of twenty-four frames a second. Thus it is that a 400-foot reel of silent film takes sixteen minutes to run and a sound film of equal length takes eleven minutes. This fact is worth remembering, as it is useful when timing programmes.

Now that I have explained the difference between 16-mm. silent and sound films the following warning, that all newcomers to 16-mm. cinematography must take to heart, will be appreciated. *Never try to run a sound film through a silent-film projector, although silent films can be used in a sound-film projector.* The reason is because the silent-film projector carries two sets of sprockets to take the two rows of holes on the silent film, and as the sound film only has sprocket holes on one side it would be disastrous to attempt to use it. Therefore it is wiser to spend a little more money and buy a sound-film projector so that both types of films can be shown.

The 16-mm. Projector.—There are now several makes of 16-mm. sound-film projectors on the market, many of them completely redesigned and capable of giving long service if carefully maintained. Although these projectors are simple to operate, as with all electrical apparatus, a little knowledge can be dangerous. Whoever is given charge of the projector should have had a course in its use and maintenance. It is a good idea to select several members of the factory who have electrical training, and arrange for a qualified engineer from the makers of the selected projector to

give them a thorough grounding in the use of the apparatus. Selected members of the staff should be encouraged to join the local film society and take part in their activities, thus learning the rudiments of showing and making films from keen amateurs who also possess the professional touch.

The average 16-mm. projector seldom weighs more than forty or fifty pounds and the separate speaker unit about fifty pounds, both units being small enough to pack into cases for ease of handling from place to place. It is usual to use either a 500- or 750-watt lamp, according to the size of the hall or room and the distance of the screen from the projector, although for general works purposes a 500-watt lamp running from 110 volts is sufficient to produce a very clear picture. A transformer unit is supplied with all projectors, for the supply of the correct voltage to the lamp as well as to the projector motor and the amplifier. There are two important features possessed by most modern sound-film projectors which, incidentally, are points that should be looked for if the purchase of an older model is contemplated. Firstly, there is a clutch mechanism that allows the projector to be stopped at any section of the film so that the picture is projected in the form of a "still"; secondly, there is a two-speed gear which enables the projector to be run at the sound-film speed of 24 frames a second or the silent-film speed of 16 frames per second.

The average cost of a new 16-mm. sound-film projector and speaker unit is £300 and, in addition, it will be necessary to buy a suitable screen, preferably a roller type—that is, one that can be rolled into a cylindrical container when not in use. Screens vary in cost according to size, and as a guide a silver-surfaced screen measuring 8 ft. by 6 ft. costs from ten to fifteen guineas.

Hints on using a projector and giving film shows will be found in a later section.

ORGANISING THE FILM PROGRAMME

If the Welfare Officer new to the use of films in his factory has followed the advice given in the preceding notes and collected the information needed before getting down to the practical organisation of a film programme, he will now be in a position to call together the film committee in order to decide on the general trend of the programme. Generally speaking, the types of films that can be of use in a works film programme can be divided into several groups, and the groups together constitute a complete programme. As I mentioned earlier, it is essential to visualise the whole scope of the use of films in the works and to concentrate at first on one or two groups, gradually leading up to those that are not, initially, so important.

The various groups are made up as follows:

1. **Welfare Films.**—Films that deal directly with various aspects of the work of the Welfare Department. These include such subjects as works safety measures, first aid, industrial health and the work of the industrial

medical services, and industrial hygiene. The subjects in this group are all of vital importance in the general set-up of industrial welfare, and many Welfare Officers have found that lectures on these subjects, even when given by competent authorities, do not always hold the attention of the workers.

If the lectures are held during the evenings, there is always a tendency on the part of the average worker to avoid such discourses, because talks, however interesting they may be, are not his idea of spending an hour off duty. Lectures during training periods do achieve a great deal, but certain vital points are often lost because of inadequate methods of demonstration. It is because of the appeal of the film, coupled with its power of giving true and pictorial demonstration, that its adaptation to the needs of industry has grown to such a wide extent.

Take, for example, the great need for adequate instruction in safety measures and industrial first aid. The all-important feature of instruction in these subjects is the comparative approach to the subject—the demonstration of right and wrong methods. It is here that a film scores over all other methods of instruction. Works safety measures can be demonstrated and shown quite clearly by lecture and diagram, but lectures cannot hope to show these measures in operation and what can happen if precautions are not followed. By the combined method of pictures and animated diagrams a film can link together the theoretical essentials with the practical aspects of industrial safety. Workers seeing such a film, especially if there is a chat and open forum afterwards, carry with them a moving picture of actual conditions which they automatically put into effect when back at their work benches.

British Thomson-Houston are particularly proud of their safety-measures plans, and some time ago made a 20-minute film depicting their efforts to ensure safety for their workers. This example could be followed quite economically by smaller establishments using a 16-mm. cine-camera for the purpose of filming and demonstrating their own particular scheme for factory safety. First aid, also an important activity, is particularly well served by films available from film libraries, and several film-shows can be given using only films hired or on loan from libraries given in the list printed earlier in this chapter. Some of the leading manufacturers of first-aid materials have added to the films available by sponsoring special films, for example T. J. Smith and Nephew, makers of "Elastoplast" dressings, have made *Industrial Injuries*, a 45-minute film based on a typical factory medical-service scheme run according to Home Office regulations. This includes scenes showing factory clinic work as well as a fully developed factory first-aid department functioning under all kinds of conditions. The Kodak Medical Library is a valuable source of films on first aid, such films as the *Control of Bleeding*, a 10-minute silent 16-mm. film which uses both diagrams and a living model. Lyons recently featured Cadby Hall in a film called *Don't Take a Chance*, a practical production stressing the importance of care in handling machinery and thus preventing accidents. The Central Film Library, always a source

A good 16-mm. film, has many titles of immediate interest to the Welfare Officer. *Mass Radiography* was made specially for use by Welfare Officers whose factories it is proposed to bring a mobile radiographic unit. Here is, perhaps, the outstanding example of the use of a film to acquaint workers with a new medical service which, unless it is clearly explained in advance, will not receive the reception that it should. This film, planned for showing to workers during the weeks prior to the visit of the unit, illustrates just what happens when the unit reaches a factory, and explains clearly how valuable the X-ray photographs are to the medical staff of the works concerned.

The films in this group are used to best advantage when they are shown to supplement regular instruction in welfare and factory health matters, their particular method of instruction being used to break down prejudices against new methods and treatments. If workers can see other people using new methods and see the practical results of such methods, then the first stages of getting them to a pitch of real interest are passed. When arranging film-shows composed of films dealing with the topics coming within this group classification, it is a wise plan to let the medical staff see the films first so that they can make notes for a short talk after each film. These talks are essential, as they lead workers into open discussions on the subjects depicted in the films. Many difficult points can be discussed and the film shown again if necessary, stopping the projector at those sections that need closer study. I have only mentioned a few of the films available in this group in order to give a general picture of its wide scope, but if the Welfare Officer has compiled a reference file of film library lists he will be in a position to make up several suitable programmes.

2. Training Films.—Films dealing with works training and education, which include films that act as refresher courses for returning Service men and women, form a very important group covering a wide field in industry, and received priority attention from the three Services and Government Departments during the war years. It has been proved, and is now generally accepted, that films can teach difficult industrial operations and processes, and that films can ease the difficulties of linking theory with practice, a problem that so often baffles the works instructor when faced with a class of apprentices who have difficulty in absorbing theoretical facts. The largest source of instructional films at the present time is the Central Film Library.

The organisation of a scheme of training films is one that cannot be carried out solely by the Welfare Officer. He must have the co-operation of departmental heads and the personnel in charge of the various stages of training and instruction. Training films cannot in themselves be the sole means of instruction, but must be treated as a visual "aid to training"—that is, to give a true picture and demonstration of the difficult sections in each training stage. An instructor, for example, may have difficulty in clearly

describing how a new process is far better in every way than its predecessor, here a film showing the old and new methods actually in operation will be reason of its practical working examples complete his instruction in pictures. Fortunately for the smaller industrial unit, many of the films made by our major industries are available on hire to other organisations and technical training schools, as, for example, the films made for Edison Swan Electric Company, whose adaptation of films as a part of their apprentice training scheme is a striking example of the use of films as a visual aid in training. The first of these is called *They're Electrons*, and is of use to all works with a training scheme for their electrical staff. The film covers the historical as well as the practical applications of electronic theory in industry, and many of the explanatory sections of the film use animated cartoons to demonstrate clearly its "invisible" workings. I have mentioned this film because it does illustrate the purpose behind a training film. Here is a scientific principle which governs the processes and machinery in so many industries, apart from the electrical apparatus manufactured by Edison Swan, and it is a theory that so often baffles the apprentice. Before showing this film it is assumed that the apprentices have already had an elementary training in general electricity and have reached a point where theory must be applied to industrial practice.

To accomplish this advanced stage of training it would, normally, be necessary to have a series of lectures with copious blackboard illustrations, together with the addition of working models. This film, however, during the course of its three reels uses cartoons to bring alive the formulae and diagrams of the text-book and to show them applied in industry. This same film technique is also applied in a film made in collaboration with B.O.A.C. and Rolls-Royce by the Shell Film Unit, called *The Single Point Fuel Injection Pump*. This is a technical instructional film of the more advanced type designed to explain the working of the modern fuel injector for high-performance units in aircraft, and will be shown to students and apprentices in the aircraft industries. Here, again, the film translates the physical theory of symbols into the moving parts of the finished product. The apparatus explained in this film is very small, and practical demonstration would be difficult in a lecture-room. The cine-camera, however, is able to give close-up illustrations of all its working parts which, shown on the screen, are naturally magnified. Each of these films demonstrates the essentials of the training film, which must in clear, chronological style present in pictures and diagrams the solution to whatever problem is posed. An instructional film must focus on its one main object and not wander into other fields. If, for example, it is to demonstrate a new cloth-cutting machine, it should not drift off into irrelevant schemes showing what happens to the cloth after it has been cut. The film should just show the machine working, explain its maintenance, what happens if it is ill-used and how it compares with earlier models.

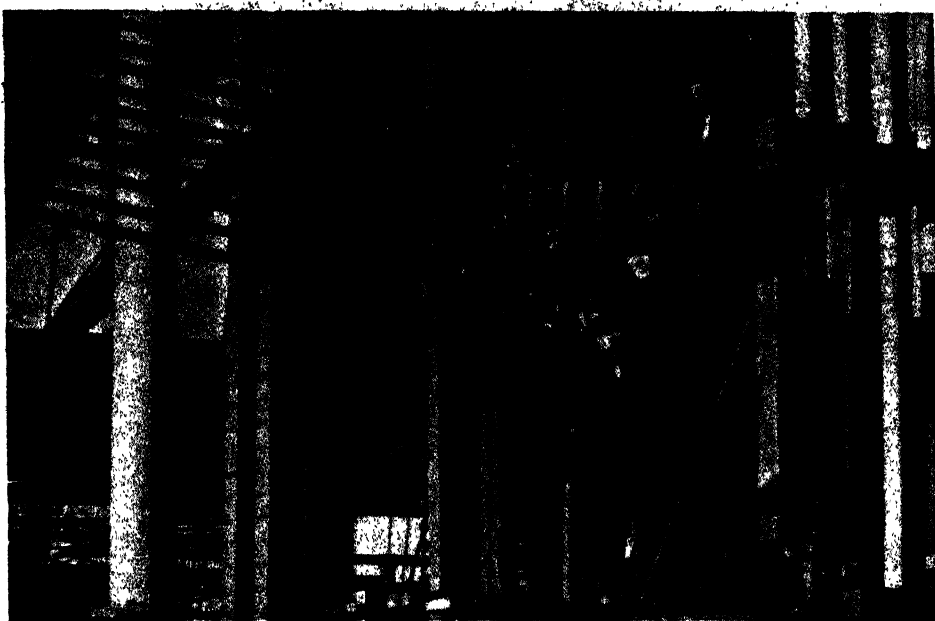
Among the many training films that can be obtained on loan from the Central Film Library, I have selected the following as being representative of the variety of subjects that the Welfare Officer has to select from: *Catering*, an 18-minute explanatory film demonstrating the correct way to run a factory canteen; *Boiler House Practice*, an instructional film on boiler house practice and fuel economy, giving correct methods of firing, etc.; *Steam*, a film made specially for managers and executives, on the efficient use of steam and the saving of fuel in the boiler house.

Many industries have already sponsored industrial and training films dealing with the use and maintenance of the equipment they manufacture, and these films can be of great value when using the apparatus concerned.

British Thomson-Houston have a practical film called *Resistance Arc Welding*, which is admirably illustrated by means of animated diagrams. S. Wolf & Co., Ltd., manufacturers of machine tools, are firm believers in the value of the film as an instructional medium, one of their best being *Hands Full of Power*, dealing with electric hand drills. Another useful example of the industrial demonstration film is *First Principles in Grinding*, made by the Carborundum Co., Ltd. The Aluminium Development Association have quite a wide range of films to choose from, one particularly outstanding example being *The Heat Treatment of Wrought Aluminium Alloys*, a simple yet practical instructional film with animated sectional diagrams to explain the theory of laboratory and machine bench equipment. In the shipbuilding industry the instructional film is becoming recognised as a part of training schemes, an example being *Forward to Service*, a film made for Smith's Dock Co., Ltd., of Middlesbrough, which shows the various processes of ship construction. From the boot and shoe industry there comes a notable effort from William Walker & Sons, Ltd., of Bolton, a film called *Hide to Sole*, a 15-mm. production dealing with the production of leather from raw material to finished product.

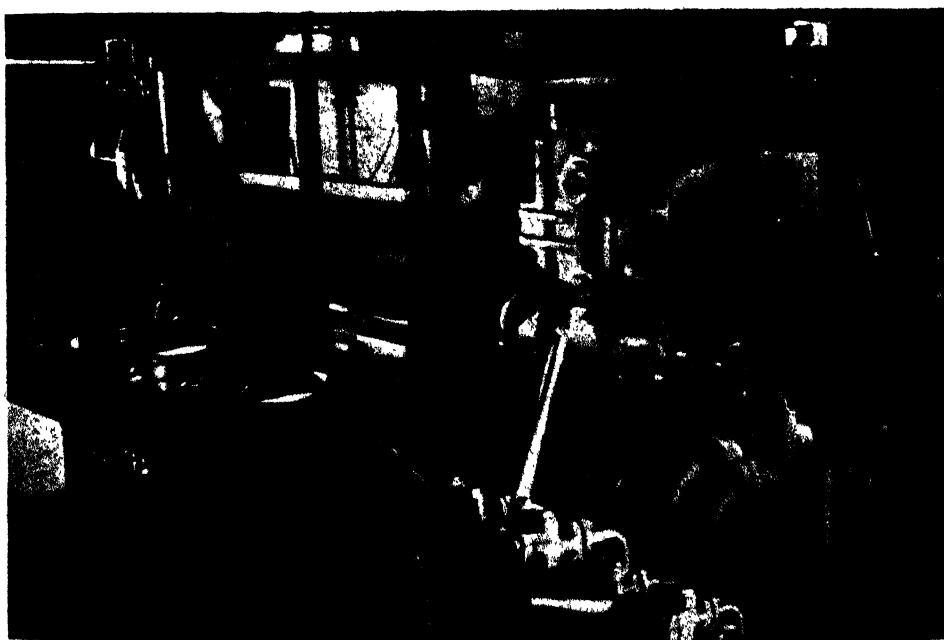
How the Welfare Officer selects his films will vary from industry to industry. The principle involved is in most cases the same. From the lists that he has in his files, the Welfare Officer should tabulate under the various departments those films that appear to link with the current training scheme. He notes the length, the running time, whether the films are sound or silent, and whether the subject-matter is treated from an elementary or from an advanced view-point. These lists are submitted to the department heads, who decide which films in the list will be of use. Certain days are allocated to each department, the films are ordered (this must be done some weeks before they are required, in order to avoid let-downs) and some days before the films are to be shown to a particular class the instructor should see them through in order to fit them into his course of instruction. This ensures that the films are visual aids in the fullest possible sense.

Never be content to show a training film once only. Often the preliminary showing is only sufficient to impress a few important facts on the mind of



Courtesy Film Producers' Guild.

FIG. 11.—This “still” comes from an industrial film dealing with steel structure and plant.



Courtesy Film Producers' Guild.

FIG. 12.—Scene from a most successful industrial film, *Steel*.

the worker. The film should be run through again, stopped at those sections needing detailed attention, and repeated at a later stage in training as a form of revision course.

The above only gives a mere outline of the scope offered by the training films, and the scope is even wider when films are made within the works.

3. General Interest Films.—Films of general interest, such as works newsreels, films showing vital industrial questions of the day and films made by other industries, should always be included in any works scheme. Every two or three weeks a film-show lasting, say, half an hour should be arranged for all workers who are interested in the general progress of industry. For this purpose there are even more films available from the various libraries and industrial organisations than is the case with training films. During the year following the war a great many companies sponsored films showing what they did to aid war-time production. Others have made films for showing in the export markets, films which cover wide fields and contain much that is of interest to industry in general. Dunlop Tyres, for example, made a film called *Far Horizons*, a long film telling the complete story of the company's work, and from the Central Film Library interest films are available which deal with every aspect of industry, in addition to a works newsreel, each issue of which deals with a subject of topical interest to workers.

Films other than those arranged in conjunction with the training programme of welfare schemes are partly recreational, and as such should be restricted to the autumn and winter months. The social side of films should by no means be neglected, and a works film society can be a really useful addition to existing recreational activities. If a camera club already exists in the works, then the film society could form a branch of its activities. As a beginning, a small committee of workers who are interested in industrial and documentary films dealing with industrial problems, as well as those dealing with general subjects, should be formed, and around this committee a film society may be developed. This section of the works social activities should be open to all workers keen on seeing outstanding documentary films, both those made in this country and those produced in other countries, and discussion circles should also be developed.

Those who are more technically minded should be encouraged to use the 16-mm. projector and one member, at least, made responsible for the booking of films for these general shows. It is only by getting the workers themselves interested in this way and made to feel that they are playing a part in the efficient running of a films programme that both recreational and training films will arouse the interest they deserve. Most of the long and short documentary films made during the past few years are available from the various film libraries in 16-mm. form, and both the Central Film Library and the British Council have a wide range of subjects to choose from, including some very successful documentaries that achieved widespread screening in cinemas throughout the country. An example is the British Council's

Steel, a very popular industrial documentary made in technicolour, and there are many others possessing an appeal to workers.

The Editor of the works magazine should be persuaded to devote space in each issue to notes on the films to be shown during each forthcoming session, and workers should be invited to send in suggestions regarding the films they would like to see. This social aspect of films in the works can develop into a highly popular branch of welfare activities, particularly if the works possesses its own cine-camera so that permanent records can be made of various recreational activities. Never before has there been such an interest taken in the non-theatrical aspect of films, and Welfare Officers should take full advantage of this interest in "serious" films. Find out what subjects workers are really interested in and book films accordingly, remembering that only those films that arouse their full enthusiasm are likely to tempt workers to give up their evenings in order to attend factory film-shows. Avoid propaganda films, see that the programmes start to time and make absolutely sure that the projector is in working order—nothing is worse than a breakdown in the middle of a show.

4. Your "Own" Films.—

(a) Films sponsored by the industry concerned and made by professional film units.

(b) Films made by members of the factory or works film unit.

These films include those dealing with welfare, health, factory safety methods, general training films, works news reels and films made from a purely recreational point of view such as special productions made by the works film society or club. The Welfare Officer whose directors are prepared to spend a considerable sum on the sponsoring of a series of training films will be in the fortunate position of having only to map out the types of films required, prepare a brief outline of the proposed scope of the series and then leave the actual production to the selected professional film unit. When this course is followed it is advisable to plan a series of short films covering a complete stage in training, thus constituting a complete supplementary course, rather than isolated subjects. Alternatively, two or three films dealing with different subjects in each stage of training could be planned. In order to cover the complete cost of sponsoring a series of twelve 10-minute 16-mm. instructional or welfare films it would be necessary to spend about £200 on each picture, possibly more if colour was used and involved detail was required. These films would be sound-on productions and of a very high standard technically, and if copies were circulated to the various libraries a little of the initial cost would be recovered.

The sponsoring of films is, of course, beyond the scope of the great majority of industries, smaller works and factories, and it is only by developing factory film units that most industries will be able to produce films dealing with their particular activities and needs. It is for this reason that films coming under the (b) sub-classification in this group will be dealt with in

some detail. Several industries and undertakings have already established very efficient film units each of which started from very small beginnings. One which now has its own 16-mm. cameramen, mobile cinema, projectors, script writers and film library started from quite modest beginnings. One of the members of this particular organisation was a keen amateur cinematographer and used to take his cine-camera with him when he toured the various sections of the organisation taking "shots" of the workers carrying out their various jobs. His directors heard of his activities and were so impressed with the value of these films that they gave instructions for the purchase of a 16-mm. cine-camera and accessories, and the film unit came into being. Now this organisation makes its own colour films and gives daily shows to workers—shows which include training films as well as those of a more social nature. Another company which has started to make its own films is the Turner group, whose managing director, Mr. Alan Turner, has developed a very competent film unit. This makes films which aim at helping the workers by demonstrating welfare activities and providing a visual means of instruction. Mr. Turner's most recent film was made in 16-mm. "Kodachrome" colour, and its cost, which was less than £200, gives some indication of the scope of the unit. This film is called *Family Affair* and runs for 33 minutes. It used 1,200 feet of "Kodachrome" film stock, and the entire production work, including titling, editing, commentary and sound synchronisation, were carried out under Mr. Turner's direction. The lighting and other electrical requirements were in the charge of two of the firm's electricians and their assistants. I have quoted this example as it illustrates very clearly just what can be achieved without the aid of professional film units. One thing must be remembered, that Mr. Turner has studied all sides of 16-mm. work and has trained members of his staff to be expert 16-mm. film workers.

No Welfare Officer can hope to produce successfully films within the factory unless he is prepared to study the elementary essentials of cinematography and as a beginning to be content to make good silent films. Later he can graduate to sound when his unit has gained experience through the actual making of films. Colour photography, too, should be left until the unit is experienced in lighting and other technical details required—experiments with colour film can be costly. As a beginning, only the essential equipment should be purchased, and the film-unit personnel should be built up from members of the staff who have a knowledge of photography and lighting and, if possible, some experience of film-making. There is always a possibility that among the members of the staff who have returned to their old jobs following war service, there is one who was attached to one or another of the official Film Units. If so, half the troubles are over. Otherwise, the members of the film unit should join the local film society so that they can get first-hand instruction from 16-mm. experts. Alternatively, they can contact the British Film Institute who can

usually arrange for lecturers to give a series of practical talks on 16-mm. film production. Initial equipment needed for the first essay in works film-making is a good make of 16-mm. cine-camera, such as one of the Cine-Kodak models (excellent second-hand models can be obtained from many of the reputable firms at prices ranging from £60 upwards). It is advisable at this stage to avoid the super-speed camera with its complicated mechanism and adjustments, and concentrate on reaching perfection with a simpler type. Kodaks, the original pioneers in 16-mm. cine-photography, can give the Welfare Officer much useful advice in the selection of the right type of cine-camera. In addition, a good cine-exposure meter, light filters and several studio lights for interior scenes are necessary. Another essential piece of equipment is an "editing bench" for the processed film. By "editing" is meant cutting out unnecessary shots and joining the film together in chronological sequence. This is again an operation that needs a lot of experience before perfection is achieved, and the Welfare Officer who proposes to edit his own film should have practical instruction before attempting this tricky process. Incidentally, it is only possible to touch briefly on these technical aspects of 16-mm. film production, and Welfare Officers are recommended to obtain the book published by the British Film Institute which gives a more detailed account of sub-standard film-making. For practical reasons it is advisable to use what is termed "direct positive" processing (the completed film is sent to a firm of film-processers for developing), a process which enables a direct positive to be made which is suitable for projection right away.

Before the works film unit can start practical film-making it is necessary to plan a programme in the same way as when contemplating the organisation of the previous types of shows. Remember that film stock is still very scarce and, apart from being a waste of time, it is uneconomical merely to take one or two scenes of workers at the bench or the first-aid party in operation unless there is a purpose behind taking each shot. Every foot of film used must be used for a definite purpose, and this purpose must be decided upon before even starting to outline the programme and the proposed films.

For example, a works may have just introduced new machinery which has certain advantages over the old equipment and is also very different in construction. Obviously, the workers in this particular department will need instruction in the use of the new equipment, and although it is, of course, possible to give practical instruction with the actual machine, a film depicting the equipment has certain outstanding advantages. A number of workers gathered around machinery are learning at a disadvantage; those nearest to the instructor can see more than those on the outside of the gathering, also there is the disturbing factor created by workshop noise. A film, therefore, is indicated to supplement the bench instruction, and by virtue of the fact that when shown on the screen the various parts of the machinery are magnified, workers can see far more than they would when gathered around the

bench. This, therefore, would be the purpose of the film—to demonstrate the new piece of plant, to explain pictorially its component parts and to show the principles of maintenance. By showing a worker using the machinery correctly and incorrectly, a picture is impressed on the minds of the audience of just how the machine should be used and, conversely, how not to use it.

MAKING THE FILM

In conjunction with the instructor and the manager of the department concerned, a brief outline of the proposed film should first be written. This outline must state broadly what is needed in the film. It must suggest important scenes, it must indicate what arrangements will have to be made for the preparation of a suitable bench on which the component parts of the plant can be laid out, and how long the proposed film will be. The ideal length for an instructional film of this type is 800 feet, which gives a running time of 22 minutes. If the subject needs more detailed treatment, another 400 feet can be added, giving the complete film a running time of 33 minutes. After all the technical details have been checked and the instructor and departmental manager have selected the workers who are to act as demonstrators in the film, a "shooting script" must be prepared.

The preparation of the shooting script sounds more difficult than it actually is in practice. Remember that a shooting script is the blue-print from which the cameramen, director and all concerned with the making of the film work. Every little incident, every camera move and details of close-up and distant shots are all detailed in the shooting script. When preparing the script of a silent instructional film, it is important that each sequence tells its own story without words. These sequences, following one another in chronological order, should need little commentary. If necessary the film can be run through a second time when it is shown to workers, and the instructor can comment briefly on important points.

Before actually taking a scene, the cameraman should run several rehearsals, using the camera without film so that the scene is perfect before actually shooting the sequence. In film studios many rehearsals are made before the cameras go into action. These rehearsals ensure that the scene is just right before using up valuable film stock. Avoid taking the camera shot near polished surfaces or backgrounds; these will throw reflections and ruin an otherwise good scene.

As I mentioned earlier, the finished film will be the master-print which can be tried out in the projector as soon as it is received from the film processor. Invariably this first print will need editing; certain scenes will be too long others may be incorrectly focused, and will, therefore, have to be either shortened or cut out in the latter case. In order to avoid cutting the master print, it is advisable to have a number of duplicates made from the original film—called "dupes" in film language. These "dupes" can be examined

on the editing bench and the necessary cuts made so that the film is shown to workers in a fully edited form.

The making of training films is only one aspect of works film production. Welfare subjects should not be neglected, and any new aspect of the welfare set-up in the works should be made the subject of an explanatory film, for not only does this help from a training point of view, but it also gives the Welfare Officer a permanent pictorial record of the progress of his department. As with the showing of films hired from film libraries, the social side of works film-making must not be forgotten. The obvious development is the formation of a works film society, and a section of this would be devoted to the making of films of general interest to all departments. A short factory newsreel is well within the scope of the factory film unit, and this should be shown at either fortnightly or monthly intervals. Sporting events, important social functions and visits from important personages are all ideal subjects for the factory newsreel.

But I repeat that before even thinking of starting a works film production unit the Welfare Officer should see as many industrial and training films as possible—films that not only deal with matters of interest to the industry with which he is connected but depict other industries as well. He will thus obtain first-hand knowledge of how the various professional film units present industrial subjects in clear, concise and chronological style. He will see films that are too long—films that allow their theme to wander from the basic subject-matter and thus take the mind of the viewer away from the essential problem. Other films will appear to cram too much detail into a short length of film, overwhelming the audience with a surfeit of technical facts so that they are confused and the film becomes a novelty rather than a visual aid. All these faults should be avoided when making works films, and although the first film that is attempted may not be anywhere near professional perfection, it will have achieved its fundamental training purpose as long as the sequences tell their story in order and the film has been carefully edited. The unit will, naturally, improve as it gains practical experience, and as more films are completed so will the Welfare Officer be able to build up his very own works film library. This should be the ultimate aim of all industrial organisations wishing to make the most of visual aids in industry.

RUNNING THE FACTORY FILM-SHOW

If films are to be regular features of both the welfare and recreational aspects of a firm, however small its works or factory, their success depends very much on good staff work and preliminary preparation. Firstly, the Welfare Officer must realise that he needs a team of efficient assistants, and each must be trained to carry out his, or her, particular job. Although the Welfare Officer acts in the general capacity of Films Officer, working probably in conjunction with the general staff training officer (and in many

cases with the publicity manager), it is obvious that the time that he can devote to film work is governed by the number of his other duties.

The Welfare Officer should appoint a member of his staff to act as Assistant Films Officer, who should be made responsible for booking films, looking after them while they are in the possession of the works and for their safe return. The Assistant should prepare a record book which shows at a glance all the detailed information required concerning all films shown in the works. A suggested layout for this record book is as follows:

Left-hand Page

Film Title	Source of Film	When Received and Hiring Charge	When Returned
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Right-hand Page

Length of Film	Sound or Silent	Type of Film—Instructional, Welfare, Health, etc.	Condition when Received	Remarks
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A record of this type is valuable in many ways; it is a safeguard against keeping films too long, it prevents the ordering of films that have been used quite recently, and when a particularly good film is required again all the necessary facts are immediately to hand. Another important link in the organisation of the film programme is the projectionist, who is not only responsible for the efficient running of the projector but will also have to look after its general maintenance. During the war years it became a practice for factories and works to train a number of staff members to act as projectionists and in many cases women were found to have a definite *flair* for this type of work. As we are regarding films in industry as part of the work of the Welfare Department, it will enhance co-ordination if two or three members of the department, together with selected members of the electrical staff, are trained to use the projector. A rota should be established so that each projectionist has an allotted number of films to show during a session. The question of training projectionists is often a problem, although this can be overcome if the Welfare Officer has joined a local film society and received complete instruction himself. Manufacturers also will always instruct projectionists in the use and maintenance of their equipment. The British Film Institute have published several practical booklets on 16-mm. film-showing, and these publications should be added to the Welfare Department library. There is also an excellent official booklet called *Optical Aids* (Board of Education Official Educational Pamphlet No. 115) which contains much that is instructive. It gives not only hints on the proper use of 16-mm. projectors, but deals also with the use of visual aids as an educational medium.

The Welfare Officer should clearly understand that the efficient operation

of the projector is vitally important. Inefficient projection will ruin the value of a training-film show, and employees will immediately lose faith in what is to them a new form of training. An important point, therefore, is the decision whether the projector and ancillary equipment is to be set up permanently in a definite room or hall, or is to be mobile—that is, can be taken from one part of the works to another. In the case of a smaller factory the need for movement is not so great as it would be in larger establishments. I am, personally, in favour of developing a permanent “works cinema”—that is, a large room or hall which can seat up to 100 or 200 people and can be adapted for showing films to small groups or to larger gatherings when showing general industrial films. Certain factors must be observed when deciding the room to use for this purpose, most important being the need for a clear picture and a screen position that allows everyone in the audience to see without eyestrain.

Good blacking-out is important, and the works electricians should pay particular attention to the general lighting arrangements. Preferably there should be a dimming device, so that lights are lowered gradually and not switched off suddenly. The projector should be mounted firmly on a rigid base, and its position such that a clear picture is given on the screen with the minimum of distortion. Projectors are provided with a variety of lenses, and their use should be governed by the instructions sent out by the manufacturers of the apparatus installed. Most makers provide stands, but it may be found necessary to raise the projector by providing a platform in addition. An 8 ft. by 6 ft. silver screen is the ideal type for general factory use, and if it is decided to use the projector as a mobile unit, the screen can be of the collapsible type which rolls up into a cylindrical container. The screen should be fixed fairly high at the end of the room, and the projector position worked out in conjunction with the makers, who will advise on the correct combination of lenses required for the particular “throw”—that is, the distance of the projector lens aperture from the screen position. Care should be taken to ensure that all wiring—particularly the cables running from the projector to the speaker unit, which is usually placed beside the screen—is securely fixed and not in the way of the projectionist or audience. A projectionist falling over a loose cable during a film-show may not only damage the projector, but will also ruin the show by causing a distraction that will take away the attention of the audience. If the works concerned has decided to hire a projector and operator when they wish to show films, the Welfare Officer must still carry out certain preliminary arrangements. These will include ensuring that the room, or hall, is sufficiently blacked-out, that there are several power points available and that the room is reasonably sound-proof.

Here are a few important points to remember when organising works film shows, using equipment installed by the firm itself:

1. Those using the projector must learn all that there is to know about

its component parts and the reason for their presence before attempting to show films with it. They must know, too, why breakdowns occur and how to track down the cause. The projectionists must be able to keep the projector in good running order.

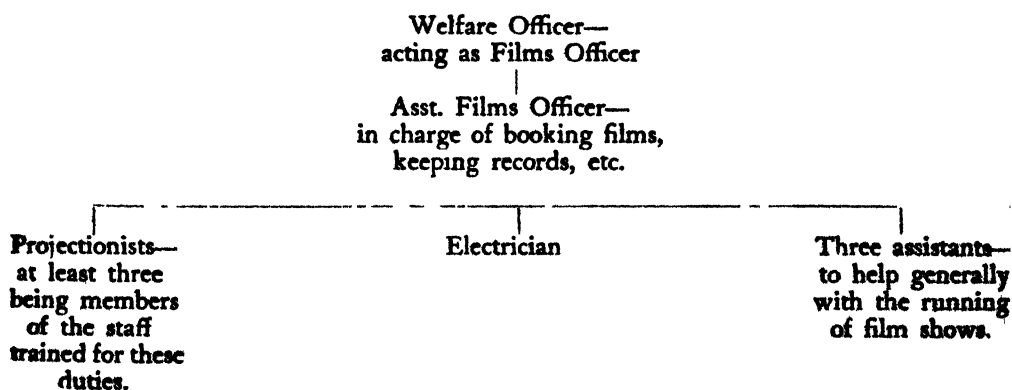
2. When the projector is running during a show, the projectionist must always remain at its side, watching for any possibility of a breakdown, keeping the sound adjusted and being on the look-out for any sudden breaks in the film. On no account should anyone but the projectionist's assistant be allowed to stand with the projectionist during a film show. Conversation with the projectionist while the film is running will distract the attention of the audience.

3. Remember to rewind the films at the end of each show and put them in their respective tins as soon as they are finished with. Double check the title on the tin with the title on the lead of the film so as to avoid sending the wrong film to the library. Films sent back to libraries in bad condition will result in your company being refused the loan of films on future occasions.

4. When not in use the projector should be put into its case, if used as a mobile unit, or if kept in a static position, it should be provided with dust-proof covers. Keep all spare parts in a locked cupboard so that there is no chance of their being mislaid.

5. Arrange with the local cinema manager for your projectionists to visit the cinema's projection room. Much can be learnt by watching skilled 35-mm. projectionists at work.

The staff of the works film section should be made up as follows:



PLANNING A FILM SESSION

Having trained a staff to show films, and having a complete guide to what films are available, the Welfare Officer can now plan the first of his "sessions," which should be divided into training and general categories. Those dealing with welfare subjects can come under "training" films when

they deal with an individual department's safety methods for example, or in the general category when they show some aspect of welfare that covers the whole works. Both groups should be divided into film sessions in very much the same way as lectures are composed of a definite number of talks which make up a complete session. Each department requiring the use of films to supplement its training schemes should have a session of films to correspond with that particular stage in training. The session of general films will consist of a series of shows lasting for about an hour each, given in off-duty hours, but training films should be shown during the normal training periods.

In preparing a session of training films, the Welfare Officer must consult with the Departmental Manager and the Staff Training Officer, and as the result of this conference a session of films may be arranged to cover a period of six weeks. These sessions must be planned in detail, and an example of how this can be done is given below :

TRAINING-FILM SESSIONS

Department.	Welding.
Stage in training.	First-year Apprentices.
Object of films.	To illustrate and supplement training course.
Length of visual instruction needed each week.	Twenty minutes for each group of ten apprentices.
Is film to be shown without a short talk?	No. Instructor will see each film before showing, and prepare a short talk.

PROGRAMME

Ten apprentices to see films each week, on Monday, Tuesday and Wednesday.
Time: 11.30 a.m.

1st Week

Film	<i>Inside of Arc Welding</i> Parts 1 and 2	Issued by Central Film Library
	Running time—20 minutes	

2nd Week

Film	<i>Inside of Arc Welding</i> Parts 3 and 4	ditto
	Running time—20 minutes	

3rd Week

Film	<i>Inside of Arc Welding</i> Parts 5 and 6	ditto
	Running time—20 minutes	

4th Week

Film	<i>Resistance Welding</i>	Ministry of Supply Film
	Parts 1 and 2	
	Running time—20 minutes	

5th Week

Film	<i>Resistance Welding</i>	
	Parts 3 and 4	ditto
	Running time—20 minutes	

6th Week

Film	<i>Resistance Welding</i>	
	Parts 5 and 6	ditto
	Running time—20 minutes	

A programme such as the above should be made out for each department needing training films, and the booking of these films should be undertaken by the staff member who has been appointed Assistant Films Officer.

The book outlined earlier in this article must be kept up to date so that a complete record is available of all films used, with the date on which they are returned to the source of supply. Departmental managers should make a report at the end of each session stating whether the films were successful, and outline suitable subjects for the next session.

“ GENERAL ” FILMS

So much for training films. Now comes the group of general films which cover subjects of interest to all employees, such as first aid, general welfare, and the work of industry in general, including works newsreels. These films will be shown to a much wider audience of workers than the specialised training films, and will have to be shown either during the lunch break or during the evenings. They should not be confined entirely to serious films, but should include one or two short features of general interest value. The ideal compromise is to arrange a session of six fortnightly film-shows at intervals throughout the autumn and winter months, and make each show a happy mixture of interest and instruction. For example, if it is decided to show workers some films on factory safety methods, there should also be included in the programme a feature having a general interest angle, as well as the current issue of the Central Office of Information's factory newsreel called *Britain Can Make It*, full details of which can be obtained from the Films Division of the Central Office of Information. These film-shows, which are obviously arranged to interest all sections of the works, should avoid films with a propaganda angle—workers saw so many of this type during the war years. Do not make the mistake of getting workers to come to a film show by

announcing only the highlight of the programme and then forcing them to sit through a number of propaganda films. If industrial and welfare films are really to help, the session of film-shows must be carefully planned with a view to maintaining a balance of entertainment value and instruction. Once that happy medium is achieved, workers will begin to look forward to the fortnightly shows.

As with training films, a definite programme must be made out and the starting time strictly adhered to. The complete programme should be circulated to all departments, and copies pinned to all notice boards. I particularly stress the organisation of regular film sessions rather than shows at indefinite periods, because there is always a tendency, when planning to use films at irregular intervals, to allow a long time lapse between each show. It is surprising how easy it is to allow these shows to dwindle away to an occasional event. There is only one way to make the most of welfare and industrial films, and that is by planning a series of sessions running from September to February, each session being made up of six fortnightly shows of sixty to seventy minutes' running time.

In this way it is possible to plan six programmes at a time, and to place orders for films well ahead of the date on which they are required. Thus the possibility of being let down at the last moment is reduced, and it is also possible to give workers an idea of what films they will be seeing.

Each session should, of course, have an underlying objective and, as with the session of training films, have a definite instructive purpose. They should also be designed to assist the Welfare Officer to create a closer link between his department and the employee. Works welfare and works relations must reach every employee and particularly those who regard the Welfare Department as something of a curiosity and not as a vital section of industry. Films can show workers the need for a Welfare Department, and all the manifold ways in which it can help them at work and afterwards. Every worker is normally a film-goer—it is his or her most popular form of entertainment. It is all the more necessary therefore to hold their interest, and this can only be done by seeing to it that works film-shows are interesting and efficiently run. There must be no mistakes during the showing of the films, the starting time must not be changed at the last minute and, as far as practicable, the announced programme should not be changed. If for any reason a particular film is unobtainable when required for a certain date, immediately order one that is similar in context.

Timing a programme and making a time-sheet is quite a simple procedure, and a time-table should be made out for each film-show in the session. Let us take, for example, a programme made up as follows:

(1) An edition of *Britain Can Make It*, the 11-minute Central Office of Information factory newsreel.

(2) *Industrial Injuries*, a 46-minute film made by T. J. Smith & Nephew, Hull.

(3) *Approach to Science*, a topical 26-minute film showing the place of science in the modern industrial world. This film is included to add a general interest value and to relieve the more serious element in the instructional film.

Here is a film-show that has a total running time of 83 minutes, and if a start is made at 7 p.m. and allowance made for an interval of 10 minutes half-way through the programme the show will finish at 8.33 p.m. These times are set out in the following style:

<i>Industrial Injuries</i>	7.00 p.m.
<i>Britain Can Make It</i>	7.46 p.m.
Interval—10 minutes	7.57 p.m.
<i>Approach to Science</i>	8.07 p.m.
Finish	8.33 p.m.

This time-table and programme should be issued at least a week before the film-show and the projectionists given a copy.

I have already mentioned that it is essential to maintain the workers' interest in films, and if it is found that this is falling off, try the idea of circulating lists of industrial films together with a letter asking workers to mark those films which they would particularly like to see. Employees will then realise that the films are being shown for their benefit and will feel that they have a part in the planning of the programme. The suggestion that I made earlier that a workers' film committee is formed to help the Welfare Officer in his contact with employees is always a good idea and should be developed whenever possible. Added interest is always given when films actually made within the works are shown, and that is why the organisation of a factory film unit should always be the aim of the Welfare Officer who has decided to make films a regular part of the work of his department.

FILMS AND THE SMALLER FIRM

The organisation of a film programme and the regular use of training films within the works or factory present various difficulties to the many small organisations employing only from fifty to one hundred workers or less. Although small, these companies are usually as alive in their activities as the bigger organisations but, although they may wish to make use of films as a visual aid in the works, lack the financial resources necessary to build up a works film unit. How, then, can the Welfare Officer in a small works make use of films as a training as well as a recreational adjunct?

Firstly, of course, he must follow the general preliminary plan detailed earlier—that is, obtain the film lists from the various libraries and gather all the necessary information from which he can base his plans to use films in as economical a manner as possible. Obviously, it will not be necessary to run training-film shows so frequently in a small works as would be the case in an organisation with many departments. Therefore it is possible to run

quite an efficient film programme without going to the expense of buying a projector. For example, if there is a film society in the district, arrangements can be made with the secretary for the use of their projector and projectionist for, say, a film-show once a week. The charge made for this service is quite nominal and Welfare Officers will find that the members of these societies are very keen indeed to help factories put over films.

The Films Division of the Central Office of Information has a large number of mobile film units, which during the war years were used for showing films in all parts of the country, and are now being used for giving film-shows of general industrial and cultural interest. These film units are controlled from the Divisional Offices of the Central Office of Information, and factories can arrange bookings with the Films Officer attached to these provincial offices. The films making up these film-shows for factories deal with specialised industrial subjects, the majority of which are from the Central Film Library.

There are quite a number of industrial organisations having libraries of films which are supplied to works and factories free of charge.¹ Another useful source of industrial films is the Gaumont British Film Library, which has enlarged its library of industrial films, but charges a hiring-fee. Small works can, if they wish, arrange to hire a 16-mm. projector on a long-term contract. The Army Kinematograph Corporation has such a service, and will hire out projectors on a three-year contract basis at approximately 17s. a week, screens being hired at 2s. a week.

So there is really no reason why even the smallest works should not be able to run a film programme quite economically, and by organising these programmes on the lines indicated in the earlier sections of this article make them highly successful. Welfare in the small works is as important as it is in the larger concerns and the fact that small works are less "departmental" than their bigger brothers simplifies the adaptation of films as a training aid.

FILMS—GENERAL CONCLUSIONS

In the foregoing sections of this chapter I have dealt with the aspect of visual aids as it affects the individual organisation, but it is obvious that in order to have a completely co-ordinated adaptation of films as an aid to Industrial Welfare, Welfare Officers should endeavour to bring about some larger-scale plan. Such a scheme organised by industries could watch over and centralise the production and distribution of industrial films in such a way that both large and small firms would have an equal chance of using films as a training aid. A co-ordinating National body is a logical development from this point.

The position in industry at the present time is very much in parallel with the position in educational spheres some two years ago. Schools all over the

¹ See page 184.

country wanted to use education films, and a few of the keener teachers started their own production units. But the many hundreds of smaller schools with limited budgets were unable to get projectors and were without the facilities for making films. Teachers were also without any concrete information regarding the source of films. Ultimately the National Union of Teachers agitated for the formation of a Central Committee to look after the national organisation of films in schools. This has now been created under the supervision of the Ministry of Education and includes among its members several leading authorities in the film industry.

I feel, therefore, that a Central body similar to that which now looks after the development of films in schools is needed to help industrialists in the use of films in their works. Several industrial organisations, such as the Iron and Steel Institute, the Scientific Films Committee of the Association of Scientific Workers, and the Association of Special Libraries and Information Bureaux, have prepared lists of industrial films; the latter have issued a Catalogue of Films together with brief appraisals, but something more co-ordinated than the mere listing of films is needed.

One of the reasons for this particular section of *Welfare in Industry* is to supply Welfare Officers with the necessary information about films, equipment and how to obtain films for showing in their works, because of this very fact. There is not, apart from the Central Film Library and several commercial companies such as Gaumont British Equipments and other professional producers of Industrial films, a library of films that caters completely for the needs of industry. A central industrial film committee with headquarters in London could do much to solve the problems of Welfare Officers who are having difficulties with the organisation of their film programmes. This committee could, through its contact with every industry in the country, prepare a library in which copies of every industrial film sponsored by individual firms are to be found. These would then be hired out to other factories at a special fee, a share of which would be returnable to the factory owning the film concerned. A central committee could also develop a projector-hiring system and arrange for the supply of instructors to train factory projectionists.

Welfare Officers themselves could be instrumental in the formation of such a committee, and one feels that when Welfare Departments find that their film sections are growing in strength and scope the necessity for a Central Committee will be even more important. With the production of films within the works the need for interchange of films and ideas will be most valuable, and this can only be effectively carried out on a fully co-ordinated basis.

FILM STRIP AND FILM-STRIP PROJECTORS

No article on visual aids would be complete without mentioning the growing cult of the film strip as an educational medium in industry. Many

leading industrial houses are building up extensive libraries of specialised film strips for use in all their departments and are following the lead set by educational authorities, who for a long time have pinned their faith in the projection of a series of still pictures as a means of providing pictorial demonstration of a difficult problem and its solution.

What are Film Strips?—They are, basically, just what the word implies, strips of film containing anything up to fifty frames, or pictures, which are capable of being projected one at a time on a suitable screen. They are, essentially, to act as a supplement to a talk or instruction but should not, in any way, be confused with the old method of illustrating lectures by means of slides. A film strip is made in much the same way as is an instructional film, that is, it must be based on a script or at least a working guide so that the series of pictures or diagrams making up the strip tells a concise story that deals only with the static points of the subject-matter involved.

The standard film strip is based on the 35-mm. standard film size, and each picture, or frame, measures 24 mm. by 18 mm. There is also another standard film strip used by a number of producers; this also uses the 35-mm. film but has pictures (or frames) measuring 36 mm. by 24 mm. Most film-strip projectors have removable "masks" so that either size strip can be used with equal success.

Industrialists contemplating the use of film strips must understand that a fifty-frame strip cannot give a complete visual lesson and, whatever the subject-matter is to be, the result must, when projected, be a simple pictorial explanation of the basic points of the instructor's talk. The strip can be all pictorial, it can be a series of reproductions of blue-prints, it can consist of enlarged diagrams, in fact there is very little limit to the medium through which the strip can put over its lesson.

To illustrate just how industry is using the film strip, here are a few examples taken from a long list of industrial strips produced recently by various commercial makers of this type of visual aid:

1. **"Electronics"**—one of a series of strips in a series called "The Construction and Manufacture of Radio Valves." This particular strip is composed of twenty-four frames and diagrammatically illustrates the connection between valve characteristics and circuits.
2. **"Woman at Work"**—a series of strips made in collaboration with leading industrialists. One made in conjunction with Lyons of Cadby Hall illustrates the work of a waitress.
3. **"Industrial Management Series"**—theory and practice of modern factory administration.
4. **"Making of Steel"**—a series of strips sponsored by a well-known steel firm illustrating the Bessemer process.

There is no subject outside the scope of the film strip, and it is essential that film strips are organised quite apart from any other film activity that a works may be using. The use of film strips in an industrial organisation is essentially a job for the executives in charge of staff training, and the Welfare

Officer comes into the picture because he, obviously, will be interested in the use of this visual aid in developing the welfare and works health side of the training scheme.

An educational film or an industrial documentary film can be shown to a large audience of workers who each share the same mutual interest, but a film strip should only be used in conjunction with the basic training of a number of a department's staff all at the same stage of training. An exception to this rule is, for example, when a film strip is used to demonstrate a new process, or a new piece of machinery, that affects the factory as a whole. In this case the strip or strips should be shown to workers over a period so that there is a series of lectures to small audiences rather than a mass instruction to a large gathering of workers.

The making of film strips is definitely a job for the expert and very few factories are equipped to make their own. Photographic illustrations used in strips have to be expertly touched up in order to produce a projected picture that is definite enough to provide informative illustration. Skilled artists trained to make the fine drawings necessary for reproduction on celluloid are an essential part of a film-strip maker's staff. Time and patience are needed in the production of a film strip dealing with an industrial process and its translation into fifty small pictures or diagrams is a very skilled procedure.

The cost of producing a film strip having fifty frames varies according to its subject-matter from £2 to £6 per frame. Assuming that the maximum cost is involved, a factory has a first-class visual of incomparable value which can be used again and again with little or no wear and damage.

Let us consider the problem of the Welfare Officer who wishes to use visual aids as a training medium in his department. He finds that the available 16-mm. films do not provide the practical instruction needed to illustrate (a) the instructional classes for these members of the factory staff who are to be experts in first aid and factory safety, and (b) to explain the uses of first aid to the average factory worker.

A film can give an overall picture and focus attention on the pictorial demonstration of first-aid methods in practice, but a lecture is needed when selected workers are being trained in industrial safety. Normally the Welfare Officer would provide the lecturer with a blackboard for illustrations and a number of factory personnel to act as demonstrators. How much better it would be if these demonstrations and illustrations were projected on to a screen in a series of clear diagrams or pictures. This is where the film strip comes into the picture.

The use of bandages in factory first aid is a good example of the application of film strips in instruction. Bandaging is always a difficult subject for instruction as it needs a subject for practical demonstration and the pupils must gather around the subject in order to see the processes explained. A film strip composed of fifty frames would by its step-by-step diagrams explain every vital point clearly and the lecturer has only to supplement it with concise

verbal explanation. The same principle can be applied when teaching apprentices the link between theory and practice, and factory blue-print work is an ideal subject for film-strip demonstration.

Film-strip Projectors.—There are now a large number of film-strip projectors on the market, each having the same characteristics, and in principle little different from the static lantern used for slides. The strip is fixed into the projector in the same way as a film is threaded through the "gate" of a normal 16-mm. projector but does not move until a depressor is used; this automatically brings the next frame into position for projection. Most film-strip projectors have masks so that both the 24-mm. by 18-mm. and the 36- by 24-mm. strips can be used. Projectors usually use a 250-watt lamp working from a battery or the main supply, and normal measurements are: length 10 inches; width 5-6 inches; height 10-12 inches; and weight 25 lb. Cost is up to £50. The requirements for adequate projection are the same as those necessary for film projection and film-strip users should study the remarks made elsewhere in this chapter.

PUTTING THE WORKER IN THE PICTURE

THE "HOUSE" MAGAZINE

By P. C. Vigor

"It is no exaggeration to say that if industry had employed a wider conception of 'Public Relations' twenty years ago the emotional and political demands for nationalisation would not have developed along today's lines. It is primarily because British Industry and its institutions ignored public opinion that we are feeling the consequences of this neglect. There has never been any attempt to explain the dynamic role and enterprise of an industrial system which has created such a high standard of living for the British people. There has equally been no attempt to answer accusations or explain trade difficulties. Public agitators skilfully exploited this vacuum, successfully building up in the public mind a picture of reaction, of inefficient, cartel-minded, unenterprising business men obsessed with extracting inflated profits from the public purse. This distorted picture, seldom countered by industry itself, grew to such a stage that many people believed that our inefficient industry was the sole obstruction to a happy and prosperous Britain free from unemployment."

John M. Ryan, Editor of "Scope," in an article in "News and Views."

PROGRESSIVE industrial managements today appear to be taking the employees into their confidence as they realise that old-fashioned secretiveness as regards their policies and their finances can lead to distrust and suspicion. It is noticed that the new frankness has its champions in the House of Commons. Major Bruce (North Portsmouth) is reported in the June 6th-June 12th 1947 *Hansard* as saying:

"There does not seem to be any reason why every limited company whether it be private or public should not publish its accounts in the factory or workshop or office in exactly the same way as the Factory Acts are put up. There is today much too much of a private ledger complex as a result of which the workers and technicians employed by the company are not permitted to know what is going on behind the scenes . . . what profits are made . . . nor the internal finances of the company. That is not the way to stimulate production."

Managements and governments, then, are realising more than ever that it is better, especially in flow- or mass-production industries, that the employees should take a live interest in the product, its excellence and its marketable qualities. And if the employees can be welded into one team, fully aware of the aim and purpose of the company, the ups and downs of industrial life can be weathered with fewer disputes and less wastage.

This frankness may be more than ever necessary in the years to come. Education and vocational training are growing. Alongside the purely utilitarian education, there is a desire for "something else"—a craving for happy, secure homes and sport and art—in short, a fuller life.

Craftsmanship, in the sense of one man carrying through a complicated series of operations to complete a finished article, is confined to smaller numbers—in the experimental, tooling, or other skilled trades. In many cases the work itself does not absorb the whole of the worker's mental energy.

On the one hand, therefore, we may expect that the intake into industry will be better educated in every sense of the word, while not all the jobs will need the full resources of this learning. This presupposes that industrial concerns must find social consciences.

Probably more than one writer in this survey has touched on the repercussions that the changing industrial scene is having on both managements and men, and the modern stress on a fully informed working community. The works magazine is one platform where the managing director or any top-level executive can write in informal and direct terms to the employee as he is seated in his own arm-chair by his own fireside. In fact, in some companies it is the only medium for man-to-man explanations. The works magazine can, if used intelligently, be one method of creating team-spirit and mutual understanding. It can explain the policies of the management in easily understood terms; it can remind its readers from time to time of the advantages of the settled welfare schemes which operate for their benefit; it can educate them in some measure about the products of that firm; it can show them how important each job is, and how they fit into the firm not as so many teeth in a gear-wheel, but as individual human beings with likes and dislikes, opinions and characters of their own.

In this chapter the works magazine is discussed as fully as possible, not only from the "policy angle" but from that of editorial production as well. Some of this may well seem elementary, but as few internal magazines appear to have qualified journalists as Editors (this post being in most cases filled by somebody attached to the Welfare Department and responsible to the head of that department) it may be helpful.

The internal or employee magazine, then, is becoming a specialised part of the literature issued by a company; chattily written journals designed to appeal in an understanding way to the worker's human relationships with his fellow-employees.

This chapter is devoted to that kind of magazine and it is written mainly from the editorial point of view. This is because (1) the writer is himself an Editor who produces a magazine, and (2) because most magazines are only part of a multiple job. Also the Editor has to be his own reporter, secretary, sub-editor, art-editor, leader-writer, advertising manager, gossip-writer and "reader." That is why his job is the most interesting in the company.

Finally, when the Rt. Hon. George A. Isaacs, M.P., P.C., was speaking

to a group of Editors he said, "You can only harmonise ideals if you have some method of distributing news. Through the medium of a works magazine we can carry to those at the bottom the aims and purposes of those at the top, and at the same time can carry the ideas of those at the bottom to those at the top. We can tell in magazines the most important things of today, how the changes in business and designs and machinery will affect a particular works. You must look on the magazine as creating *esprit de corps* in your factory, and only if it does this is it going to be worth your while. I think the workers will understand your problems more if they understand more about materials and markets."

Certainly, that is a very fine ideal. How is it going to be attained?

WHAT SORT OF MAGAZINE?

House magazines and newspapers take many forms and serve many functions. There are "consumer" magazines designed to keep contact between the customer and the manufacturer; retailer magazines which link the dealer with the company; and internal house magazines which exist to build up employee interest in the policy, history and products of the firm.

Sometimes the publication will be designed for two or even three of these functions. Thus, the dealers' magazine will be distributed throughout the factory and will carry definite pages for its "local" news. In smaller firms this amalgamation is, of course, an economical way of dealing with the publication, but it is doubtful whether the results are as good as those obtained by two distinct magazines. It might be argued that all the interests I have mentioned do coincide and must necessarily centre round the firm whence all sections earn their bread-and-butter. Maybe, yet horsemen and motor-cyclists may be included in the programme of the same gymkhana, but if you want to speak to them about their mounts you must learn a different set of technical terms.

To put it in another way: In his book, *Men at Work*, C. A. Oakley, the Glasgow psychologist, makes a distinction between people interested in their fellow human beings directly, such as welfare and social workers, and those interested in mankind indirectly or in the mass, and he quotes copy-writers as an example of the latter type of mind. Dealer and customer magazines are in the province of the advertising department, while the internal magazine should be attached to the Welfare Department or, if one does not exist as such, then the department which deals with personnel problems.

The internal magazine will sell whatever serious content it carries in its columns by a knowledge of the language, thoughts and interests of its readers. The Editor must first decide this important point—how can I write naturally and easily to my readers on the subjects which are nearest to their hearts? If he is employed by a firm where the preponderance of the labour is female,

he will have to adopt a different approach to his contents—and to his layout—than if the labour is all-male.

Similarly, should golf, polo, Beethoven and James Joyce be characteristic of their hobbies or pastimes he should not talk the language of the four-ale bar, nor describe football matches, nor write at length of the merits of swing music. Most big firms contain a mixture of all sorts of activity—mostly low-brow—and the Editor should remember the old tag of knowing something about everything and everything about something. In those companies where a thriving recreation club or sports club exists it should have a close liaison with the editorial department. In fact, it should be so positioned that a steady stream of people is constantly meeting the Editor. For all that, he should write plain, everyday English; neither sinking to vulgarity or banality, nor striving after high literary standards. He should leave, for example, sex and its "appeal" to those publications which cater for it, and should similarly not attempt to compete with the ample range of national "high-brow" magazines which can comfortably serve their limited public. He should remember that the average man is eager to hear about his own plant and about the products he makes; he likes to understand his company's policy. The magazine cannot go far wrong if it can translate news about these subjects into easily understandable terms, and if it can find fresh methods of saying the same thing without being blatant or sinking to propaganda in its worst sense.

Yet, whatever form the magazine takes (dealer, customer or works) it cannot be a substitute for good sound management policy as regards works relationships and all that implies in healthy working conditions. It can only reflect, report and persuade when it is set against a background of open, progressive thought and a management which desires to have healthy, happy workpeople in its shops and offices.

THE EDITOR

If the magazine is to be a powerful moulder of opinion on human relationships between the management and the employees and between groups of employees, then the Editor should be a responsible person enjoying the full confidence of the management. Only if his work is considered valuable can he, and consequently the magazine, do his job with any hope of success. Any other view is a waste of time and money, and the results will at the best be ineffective; they may even be opposite to those aimed at. Even in small firms where a processed or typewritten sheet is produced merely as a part-time job, it should be remembered that it is work of a responsible nature.

Which brings us to the question, very tantalising to Editors, "What should be his status in the company?" Granted that management sees the work as worth more than the attentions of some part-time junior, the Editor's position within the company is unique. He cannot usually be fitted into any

of the niches provided by grading schemes; he is part artist, part clerk, part secretary. His position is unique because he could do his job best if he knew as much about the company as the managing director—and yet he cannot expect the same remuneration! He is “the odd man out.”

But first let us consider what his qualifications should be. Whether the Editor is a trained journalist or not, he should at least have a *flair* for journalism or, at least, a liking for “writing.” The trained journalist, brought up, say, in the office of a local newspaper and subsequently going into the trade press field, may be at a disadvantage. He, to some extent, must develop that attitude of being interested in humanity in the mass. He cannot live with people at their work, their lathes, their benches or at their desks, *and* become a practised journalist. He has a great advantage, though, over the “gifted amateur” pulled from the seclusion of the works. He will know how to dress up a story and how to present it. Sometimes, maybe, he will have a passing knowledge of types and type-faces and the magazine will benefit from its smarter and livelier appearance. The work will never worry him.

It must be recorded that there is a school of thought which is opposite to that proposed in his section of this book. This school of thought believes that the internal works magazine should be run on a strictly commercial basis and that the Editor should be a trained journalist drawing his salary—an extremely high one—from the revenue brought in by his journal's circulation and by the sale of advertising space. The Editor should be advised by a committee of management drawn from various groups within the factory. He should be allowed to say exactly what he liked and in whatever virulent terms he thought fit about the policy of the firm without submitting his proofs to management scrutiny.

This is an extremely “potted” version of this opposite policy, but it is one which the reader might like to examine more thoroughly. He will find it in a booklet *We* by L. Claughton Derbyshire, Claudax Publications, London, 1947. Personally, I should hate to operate such a magazine unless I was absolutely sure of my facts—as sure as those at top-level management. And if the Editor knew enough of the facts to criticise the management of the firm there should be a place for the Editor on the Board of Directors. After all, one of the criticisms that industry is always levelling at the Press is that it sometimes gets its facts wrong. For the internal-magazine Editor to follow the path of an independent policy would lead to disaster sooner or later.

Yet if the Editor felt that he could do a better job of human relationships by being independent, then he should at least be given some rope—even if he hanged himself in the end!

Whatever the size, scope and function of the magazine, it will reflect the personality of the Editor, especially as in most cases he is the entire staff. He should be a good mixer, able to set all types at ease when he is interviewing them. For this reason alone, the principle of detailing the job to a junior

in the advertising department or to a clerk in the auditing department is wrong.

But by and large, the Editor's place in the company is more a question of confidence than an exact definition of his place on the organisation chart. He cannot be held to rigid rules and narrow terms of reference. The good Editor likes his work. He will spend quite a lot of his spare time on the magazine—if not actually on the production of it, at least in attending social functions and sporting events which will provide "copy." He should, too, become attached to one of the sporting sections as an ordinary playing member with a seat on the committee. He should avoid "official" rank on these committees lest he be persuaded to publicise that section above others. He most definitely must become part of the community. In fact, the job cannot be done without some sacrifice of leisure. And if his superiors remember that and do not apply too stringent rules to his comings and goings he will be all the keener. He cannot do his job if he is tied to an office desk, and should be allowed the run of the factory without question.

The Editor should have a seat on the works councils: he should be welcomed in any of the executive's sanctums. Unless he has the opportunity to acquire a full appreciation of the facts, his publication will retail nothing but gossip or at best woolly generalisations which will not go down with the educated worker of today.

Above all, the Editor should not be subjected to too tight supervision on the style of writing he adopts, nor should his copy be too scrupulously sub-edited by his superiors. His style will be cramped, his phrases platitudinous and full of careful jargon if he is constantly writing to satisfy his critics.

Given that the company has that confidence in his loyalty and trustworthiness, he should be given full licence to write in his own way to his readers.

THE CONTRIBUTORS

Among the questions which a man starting up a magazine must ask himself are those relating to contributions. Where is he going to get his contributions from? Will he go into the professional market? How, if he decides to keep his contributors within the firm, is he going to discourage those he does not want?

Naturally, if there is a recreation club with various sports sections, then the Editor will know personally all the secretaries and chairmen. An item of news which can be followed up is sure to be dropped in conversations. In this way, too, a contact can be maintained with the works. In fact, it will soon be found that these sections like the right kind of publicity and that they will be only too pleased to supply him with details of successes in their separate fields. Some athletes and games players are so successful that in a monthly publication the magazine might become full of their exploits. Tact has to be brought into the picture if any one of these successes has to be

omitted. If you leave out a contributor's stuff without explanation you can write him off as a future source of news.

Publicity should be given to any sports section's future events. If, say, a well-known footballer is to give a talk to the football club, everything possible should be done to build him up by biographical details and so on. It should be remembered that a successful evening is pleasing to the workpeople in the audience as well as flattering to the visitor. This is desirable, quite apart from its narrow "commercial" aspect.

But to get a balanced magazine there must be works personalities included in the columns as well as sporting personalities. There must also be some weightier material from the management. Put briefly, the balanced magazine should contain: (a) What the company wants published; (b) What the readers want to read.

As to the former, the Editor will probably find that executives are too busy to think out an article for the magazine, but if a subject is supplied—and sometimes a rough skeleton of what is wanted—it is comparatively easy to get an article (not always according to the plan) of quite considerable length. Sometimes this is unfortunate because it means cutting, but most people, even executives, will listen to the technical reasons for cuts. Many of them are aware of the dictatorial and ugly natures of professional Editors—these qualities must never be shown on the surface by works magazine Editors.

Still another obstacle will present itself when getting facts from executives. They are too often reticent and nervous and apt to write in generalisations with so many "mights," "mays" and other diplomatic euphemisms that journalistically the story is as dull as ditch-water. There is no solution to this problem, and the Editor, unless he is very, very hard-skinned, will soon become despondent. Yet he must never slacken his efforts to convince his management that his magazine is the proper platform from which to broadcast the company's views and facts and figures. Until this happy time comes along he must do his best with the material on hand.

In a firm, of say, 3,000 employees, with compact departments, all the works news can be collected by reporters in every department. These reporters would have to be hand-picked, and if good results are to be expected they should be allowed the run of the department when on a "news" story. In a larger firm, strangely enough, this might lead to too much chatter of a trivial kind. It is better to let it reach the Editor by virtue of its own strength. When the firm has branches, it is vitally important that someone in each branch has the job of supplying news as part of his work. But whatever method he uses, the Editor is sure to have to chase his reporters at the last minute.

Once the Editor has his tentacles right into the firm and the news starts coming in, his real job begins. Editorial work, especially when dealing with news, is very different from accountancy or other types of clerical work where

organisation and systems can be instituted. Even in national newspapers, Editors are always holding conferences so that "that" can never happen again. But it nearly always does!

He is going to try to get humour, many personalities (without leg-pull or insinuation), educational matter, sport, poetry (there is always reams of that), news of the products, facts about the factory and so on all into a balanced whole. He is aiming at a readership which will include readers of *The Times* and of the *Daily Mirror* without offending the one or boring the other. What have these two readerships in common? Is it that both like to see their names in print or the names of those who work with them? Most Editors agree that house magazines must contain as many names as possible. Yet every name should be accompanied by an item of news about that person or the magazine will read like the Employment Office files.

An Editor once wrote that Editors are artists, but the likeness is nearer to a sausage machine! The material pours in on scraps of paper, photographs jumbled with cartoons, memos jostling with printer's bills and process-charges. From it all must come a neat magazine with everything produced to give the effect sought. From all that jumble those items that are rejected must be returned, not with a curt slip, but with a full explanation of the reasons for their rejection. A personal chat is by far the best method. Every article that is altered or sub-edited should first be submitted to the author—except in little paragraphs of gossip.

But the Editor must set himself some standard or he will find himself loaded with poetry or alleged short stories and essays which are valueless. Further, print one, and many will follow. He will find, too, that the safety engineer or the secretary of the transport committee has a tendency to "nag" or to "pep" talk with the same old pious platitudes. There is nothing the ordinary man in the shop suspects so much as nagging—except it be patronisation.

It is a curious fact, but some people who can take a spoken word about themselves in the best of spirits will be annoyed to see that joke in print. Avoid leg-pulling and inane gossip and satire. The Editor, too, should keep his religious and political opinions to himself. Satire and criticism (except for theatricals, music and some sports) should not enter his columns.

Many firms allow the Trade Unions to have a section of the magazine to themselves. This is certainly an admirable gesture and one that shows a full sense of co-operation. Even so, the Editor should have the last word in what is inserted, though he will naturally be guided by the general policy of the firm.

He will also keep in close touch with the marketing and designing departments in the factory. If the company builds railway engines, or some commodity which has limited and obvious uses, stories about the product will not be so numerous as they would be if the commodity were, say, soap. Soap has many uses and many varieties, all of them calling for a feature article at some time or other.

Most magazines have some sort of "editorial" and most magazines fall down on this extremely vital feature. An Editor cannot write a good, sound editorial unless he is in full possession of the facts, and to do this he must have the confidence of the executives. Looking through various works magazines anyone will be struck by this editorial weakness. Editorials either sink to repetitions of the same old phrases, or they come within the range of the "pep" talk. The easiest way out appears to be to write an editorial about the magazine itself and how much better it is than other house magazines!

Only when managements realise the power of the printed word will the editorial be of value to the company—or the magazine for that matter.

Here is an analysis of a typical works magazine:

COMPANY AND "POLICY" TOPICS

News story on Hospital Services.

News story on vital Safety Figures.

News story on the institution of Fuel Saving Committees.

Feature article about the numerous ways coal is used in the factory.*

Feature articles about the packing department.*

Competition: "What are the most valuable incentives?"

News story about the latest Suggestions Scheme awards.*

SPORTS NEWS

The reorganisation of a Junior Branch.

Theatrical Section (advance notice).*

Editorial calling for greater support for club.

News stories of outings, dances, parties.

News stories of athletics, football, debating, chess, bowls, cricket, dog show and shorter items from other sections.*

FEATURES (ALL WITH SOME WORKS "SLANT")

Competition: Provided by reader.

What's in Your Name? (derivations of names, all of them drawn from payroll).*

Correspondence.

Nature notes.*

Father and sons following same trade.*

One or two jokes used as "fill-ups" at end of columns.

Page of personality chatter.

Interview with a stoker.*

Births, marriages and deaths.

* Denotes illustrations.

This magazine was drawn at random from our files. In other months, although the editorial policy and planning have followed the same lines, the magazine has had very different articles from those above.

The Editor of a monthly publication will probably find it very galling

sometimes when he realises that two monthly meetings of one particular works or recreation club council have been held within one period of his publication. News of the first is out-of-date, while the second is too near to publication day to be carried in the current month. One way out of this is to issue a supplementary bulletin or a concise report of the meeting on a single sheet. With a coloured heading "band" across the top of the report—a different colour being used every month—these can be put up on the notice-boards a day or two after the meeting. This relieves the Editor of the embarrassment of resurrecting "dead dogs" and also keeps the reader up-to-the-minute with his news without a great deal of extra expense.

PRODUCTION AND DESIGN

When, as usually happens, the Editor is appointed from among the works staff, he is often appalled by his ignorance of magazine production problems. A stranger in a strange land, what should he know about paper, type faces, imposition, layouts and all the rest of the actual mechanics? To do his job properly, he should, of course, know something of all of them. But he need not fret because he cannot claim encyclopædic knowledge. The average printing works has many departments, all of which have separate functions. Most of these departments are in themselves separate trades carrying apprenticeships of from five to seven years. Since the Editor at some time or other will contact most of these departments, he will in due course become aware of some of their work; more he cannot hope for and more is not needed.

Any good-class printer has a "contact man" who will advise you about paper and production. In fact, you can just supply the copy and leave the rest to him, taking his advice on what stories to cut and so on. This is not the ideal way. It is costly for one thing. The Editor should plan the production of his magazine right through from the start, because presentation is at least half the battle. Before one edition is finished he should at least have some ideas for the next one.

I must say that the main reason why I prefer a printed magazine to a "duplicated" one, in spite of higher costs, is that the presentation is much neater and the illustration much clearer. There are one or two good processed magazines, but in my experience they have been the house magazines of the manufacturers of duplicating machines. Not all the customer's operatives are as good as the manufacturers'!

In fact, the question was admirably summed up by Mr. Ellis Thirkettle, Principal of the London School of Printing, who said to a conference of house-magazine Editors: "There are many spheres of work in which duplicating machines are unrivalled, and they may be quite suitable for the production of news sheets to be posted round the works. But I do not think they are at all suitable for printing factory magazines. The main objections are (a) practical, (b) æsthetic and (c) psychological."

Practically, there are more words to a page and a larger number of alternative layouts in the printed magazine than in the processed. This means that less paper is used.

The printed page, with its multitude of designs and the choice of a multiplicity of type faces, can be made a pleasure to look at—although admittedly the average reader does not read for the pleasure of the design. There is no reason why this lack of reader interest in design should lead to bad workmanship on the part of the Editor, however.

Psychologically, too, the well-planned magazine with articles and features neatly arranged inspires greater weight and respect. It looks as though it were something worth a deal of trouble, and if care is taken with all the phases of production, its power is thereby increased.

The first thing to decide on the production side is the "format." There are so many sizes, ranging from the pocket size to the newspaper, that it is almost a matter of personal preference, plus an assessment of the other factors of distribution, cost, frequency of publication, all of which are touched upon later.

The newspaper style depends on its headlines, its narrow columns, its short, pithy news paragraphs, action photographs and so on for its effect. The newspaper is usually written without word-wasting and is terse in style, with short sentences, telling the main facts in the first paragraph.

The magazine usually has wider columns (about 12 words is the ideal column's width) and slightly larger type—10 "point" or even 12 "point" as against the newspaper's 8 point and 6.

The magazine can deal easier with longer discursive articles and lends itself to illustrative headings and to attractive page designs. The pocket-size magazine, however, falls down on two counts. It is of little use for short news stories, while longer articles, running as they sometimes do over many pages, do not give much chance of variation of design unless unlimited illustrations are to hand.

National magazines of this size, it will be noticed, usually have many full-page pictures and articles and all of the articles are some 750-1,500 words in length. No house-magazine Editor can order his amateur contributors to such strict rules of style.

But whatever size is decided upon, one is faced with a common problem of effective design and layout. Far too many works magazines fall down here. Let us look at one example. The cover is in colour, it is smart, attractive and one feels bound to pick the magazine up and look inside. Alas, the news content does not come up to the cover's standard. The interior, in fact, appears to have been left to someone who has no knowledge at all of the finer points of layout, and who just placed the matter in the pages with no plan whatsoever. This can be extremely disappointing, for people do not normally buy a magazine for the cover alone, although that might be the initial attraction. By the look of some of the pages of house magazines,

too, it would appear that attractive headlines have never been thought of and that, when confronted with a space at the bottom of the page, the Editor has got very busy with his scissors and snipped off all the epigrams and jokes from the office calendars. Go easy on this type of padding. Have a page of jokes rather than scatter six or seven on every other page.

When the scissors have failed to snip off enough, he has let the printer use all sorts of ornaments, stars and fancy rules, which gives the pages the appearance of a Victorian jumble-sale.

The selection of type faces, just like the selection of ornaments and rules, calls for some study. There are so many type faces that it is impossible to say "use this one or that" for the best results. But careful selection at the beginning from the printer's specimen type book will save much worry later on. As far as possible a style should be developed: there should not be a haphazard use of all manner of type faces. Types run in "families," and within a family harmonious or contrasting effects are easy to obtain. Captions for illustrations should be in different type from the body text. It is usual to use a heavy contrasting face or a harmonious lighter one.

I feel that this description is extremely sketchy, but the design and layout of magazines is an art which can only be mastered by much study and practical experience. The Editor should aim at easily-read pages of neat appearance and be extremely wary in copying some of the elaborate layouts of the commercial magazines which are designed by experts. He will very seldom get the effect sought and sometimes will lose legibility by departing from orthodox typography.

Once the format is decided, the number of pages assessed, the type chosen, the "reporters" assigned, the Editor must "sit back" and wait for contributions to come in.

Then the work of compilation begins. As the contributions arrive they should be sub-edited. Then they should be typed with a wide margin on the left-hand side and with double spacing. One side of the paper only should be used. On the copy the title of the magazine, the title or "catch-line" of story, and the folio number should be plainly written. And other instructions to the printer should also be written on the copy and ringed so that they are not mistaken for part of the text. If it has to be set in the usual column width, no other instructions need be given. When the Editor has any variations in column or type face in mind, these should be written on the copy. This means that the Editor must have a plan conceived before he sends his copy to the printer and the photographs to the process engraver. Printers use a special measurement which is based on the "points" system—each point measuring approximately $\frac{1}{24}$ inch. Twelve points equal one pica or one-sixth of an inch. As the standard rules do not usually show one-sixth, it would be wise for the Editor to buy a printer's rule and to learn the various valuations. To make extensive alterations after the copy has been set in type costs money and annoys the compositor.

There is no need to head the article yet, this can be done when the galley proof is being pasted up and the illustrations and type matter assembled on the layout. As the article is sent to the printer, its approximate length, the date on which it is sent and other details should be entered into a book so that one can always tell exactly where everything is. This is also necessary with illustrations.

In fact, it is best to make a schedule of dates with the printer, these dates to include press day, publication day, and to cover the sequence of pages and arrangements for late copy and late blocks. If this co-operation is entered into, both the Editor and the printer know exactly what is happening, and the risk of breakdowns in the publication schedule is lessened.

When the printer has the type set, he will supply two "galley" or slip proofs and these should be read for errors. Up to this stage, correction in the text-matter (except lengthy resettings) are not charged as extras; so it is best to make all the corrections on the galley proof. In reading proofs it is better to learn the standard printers' and authors' proof correction marks and there is a booklet issued by the British Standards Institution giving all the marks, *British Standards 1219 of 1945*, 2s. net. The Editor should supply himself with two dummy magazines (pages of plain paper of the same size as the magazine and folded). When the proofs come back from the printer they can be pasted on the page in the position intended. The headings can be added. Great care should be taken with headings; they should tell the most important fact of each story and be so worded as to hold the attention of the most casual reader. But they should not distort the fact for sensationalism.

The process engraver will also supply proofs of illustration blocks and these should be pasted into position too. The duplicate proofs should be pasted into the other dummy and the Editor then has a record of every page at that stage.

It should be remembered that a single page is not a unit, the eye is influenced by both left- and right-hand pages and they should be planned together.

If illustrations are planned of other than normal-column and double-column width, it is a good plan to lay out the page before sending it with the copy to the printer. Then he will run the type round the illustrations and it will cost no more. Pages like these can be planned for effect, but never sacrifice easy reading nor legibility. And plenty of white spaces, too, if well-balanced, will aid design. Don't try to cram everything in.

When the printer has "made up" or assembled the pages, he will supply a page proof. All alterations to text on this last proof (with the exception of literals) are charged to the author, therefore they should be kept to a minimum.

Although compilation and layout of the magazine is very important and is perhaps the most fascinating feature of an Editor's work, no attempt can be made in this section to go into details. However, a list of books which should be useful to the "apprentice" Editor is added at the end of the chapter.

ILLUSTRATIONS

One of the reasons why it is better to have type-set rather than processed or duplicated magazines is that the former give better results for illustrations. The illustrated magazine has a much more attractive appearance, and a well-chosen picture will do more than many thousands of words. Illustrations are useful for explaining processes, getting the members of the organisation known to one another, celebrating some milestone in the company's progress, creating good humour and so on. Photographs can carry an air of conviction.

But if it is the Editor's intention to make his readers contribute to the columns he will necessarily get a lot of second-rate and rather amateurish work. It is fairly easy to knock an article into shape, or to dress up a news story into presentable form; and most contributors will agree to the alterations made. Nothing much can be done with a photograph out of focus, the horrible pencil sketch which masquerades as a cartoon, or the woolly pen-and-ink sketch of "The Cathedral, Ely." "When in doubt, leave out," is a sound rule.

However, do not reject them out of hand. Write a friendly note to the contributor thanking him for his effort and giving your reason for returning it. If possible, use at least some of these, even if it means lowering the standard of the magazine. Sincere second-rate amateurism is at least as good as the facile effects of some professional work, with the advantage that you build up reader interest.

If this aspect of the internal house magazine is emphasised, it is because I believe it to be important. *Your readers must be made to feel that the magazine reflects the kind of lives they lead.* In the main it is best to be stricter about the standards of illustrating than of manuscripts.

What shall the illustrations be about? They can have a news content (presentations, sports, the 1,000,000th article off the line and so on)—they can be used to explain something which text does not bring out clearly—they can be cartoons about some topical angle of safety or health insurance—or they can be trivial snaps of Tom Smith's baby.

Some Editors are unnecessarily hard about such trivialia, in my opinion. They claim that the house magazine has a much higher purpose than the recording of petty events. They may be right. But the Editor who really knows his readers will find that very few read White Papers and all suspect "pep" talks. There is really no need to keep reiterating slogans and what-have-yous, when Government Departments fill every available hoarding with six-foot lettering. The intelligent Editor will see the value of photographs of old employees, for instance. You can jargonise about continuity of employment for ever, in terms right above the readers' heads, but a photograph of a group of ten elderly fitters, five of whom are still in the company's employ after twenty-five, thirty or forty years' service, is of much greater

interest and the moral is rammed home. Most of the company's policies can be illustrated in terms of simple human relationships.

Not all your illustrations will come from workshop contributors, and the question now arises where will the Editor get them from? If there is an advertising department on the premises, complete with artists and photographers, the thing is comparatively easy. There are also Photographic Bureaux which will supply prints on any subject under the sun; they advertise in books like *The Writers' and Artists' Year Book*. Local photographers will also help, but be sure to give them full information of what is wanted and do not keep them hanging about, for their charges mount with the time they take. The trade and technical press will not usually charge for reproduction, and are very accommodating, but be sure to give them the courtesy of an acknowledgment line.

How are we to get the best from our photographs and illustrations? First, it depends on what paper is used. It is impossible in this chapter to delve into the different makes of paper. The shortest way is to have a chat with the printer, who will tell you what "screen" to use to suit the paper. Broadly speaking, this will vary between 60 screen for coarse newsprint and 120 screen for calendered papers, and the higher the number of dots to the square inch on the metal blocks, the finer and sharper the reproduction.

When preparing photographs or drawings for the process-engraver or blockmaker, make sure to cut out all surplus background material. There is no need to mutilate the photograph; mask it with a piece of paper and cut out of the mask the area you want reduced or enlarged. Indicate the size and the instructions to the engraver on the mask, making sure that the pencil mark does not go through on to the photograph. Do not use paper-clips or these, too, will show on the block. Blockmakers can work marvels with damaged photographs, but there is no need to add to their worries.

It is quite easy to work out the reduction on a photograph or drawing so that space can be left on the layout for it. A simple equation is one method. The photograph is 6 inches by 8 inches and the double-column width is 4 inches. The 8-inch side will be reduced to 4 inches. Therefore, $\frac{6}{8} = \frac{x}{4}$, $\therefore x = \frac{24}{8} = 3$. Or a diagonal can be drawn from the bottom left-hand corner of a rectangle 6 inches by 8 inches to the top right-hand corner. On the base, mark off 4 inches and run the ruler from the base to diagonal to obtain depth. Reverse these methods for enlargements.

There are many ways of adding piquancy and dramatic effect to illustrations. Any shape can be used; lettering can be superimposed on the photograph; there are such things as cut-outs or silhouettes and vignettes—the edges gradually fade away and some neat effects can be produced. (Make sure you have good paper, fine screen and the best ink and press work for these.) Drawings and diagrams—and some of these can be most effective—are best reproduced as "line" blocks. Here there is no need to consider

"screen" as in the case of photographs, which are generally half-tones, a descriptive title.

It will pay to experiment with your illustrations, but the engraver's opinion should be sought before you go too far. Art work and illustrations are the most expensive items on the budget.

COST

The magazine can cost, within limits, whatever the company desires. The initial stage is to make up a sample issue with copy, approximate number of illustrations and estimated circulation. Colour, too, will cost extra, not only in printing, but in process and artists' fees—unless somebody on the editorial staff is an artist.

But these things can be estimated by a printer who should be taken into consultation immediately the project is past the idea stage.

It is perhaps a sound rule to get the best printer to do the work, and one who has the best equipment. He may charge you a little more, but presentation is a vital factor in all printed matter.

ADVERTISEMENTS

House magazines are not usually run for profit. Therefore, in the majority of cases, there is no need to carry advertisements to bring the balance-sheet out on the right side. Yet there are one or two things to be said in their favour, especially if a newspaper format is used.

The small advertisements of the "For Sale" or "Wanted to Buy" type can be looked upon as a personal service to the readers. It is perhaps best to make a nominal charge for this kind of advertisement, for one of the minor worries of an Editor's life is the leg-pull. A small fee usually ensures genuineness. With a newspaper format, too, displayed advertisements (with or without illustrations) give an air of urgency and a sense of being up-to-the-minute.

If, however, it is necessary to derive either all or part of the revenue from the advertising columns, rates have to be worked out according to printing, photographic, process-engraving, paper, editorial and office charges. If the only anticipated revenue will be from the sale of the magazine (it is usually distributed free!) and the advertisements, these will be very costly indeed. Even if the advertisement space is exactly balanced by reading matter, the magazine will be half-full of advertisements, which would make its appearance too commercial.

Whether one copy or a hundred thousand copies of the magazine are produced, the type-setting, photographic and process-engraving charges remain the same. Printing and paper charges do, of course, increase as the number of copies required increases. So the cost of a house magazine is rela-

tively high when compared with a similar publication with a larger circulation, whose costs "diminish" as the circulation increases.

The advertisement rates, then, are sure to be high in comparison with the circulation, and some difficulty may be experienced in persuading clients that the magazine is a good investment. This is especially so when the advertisers are local business houses. The big national advertisers are not generally interested in house magazines as media.

If it is decided to take advertisements, it might probably be as well to exclude those dealing with money-lending, gambling, the worst of the "cure-alls" and, of course, those praising competitors' goods.

Advertisements can look untidy, and a glance down the columns of a local newspaper will be sufficient to warn the Editor that his layout will not be improved by the inclusion of miscellaneous kinds of advertisement. He should, therefore reserve to himself the right to layout the advertisements in such a way as to improve and not detract from the appearance of his columns.

Unless his budget forces the Editor-cum-advertising manager into it, he should most definitely let his editorial half get the upper hand!

FREQUENCY OF PUBLICATION

Frequency of publication depends to a large extent on the size of the company, whether or not it is a compact unit or whether it has many branches scattered in various parts of the country.

The ideal in a large company would be a weekly or fortnightly publication run on the same lines as a local newspaper, but not cutting across their ground. In this way, all events could be recorded and company policies would be propagated with greater rapidity. This would, of course, mean that the magazine would become the "official" organ of the company as far as internal events and changes of policy were concerned.

This would presuppose full support by the management, as outlined earlier in the section, and also that there would have to be an adequate staff to cover all the sporting and business events. In the case of a weekly paper of eight pages of the same format as the national pictorial papers, the staff needed would be an Editor, a junior and a secretary. A fortnightly edition of the same size could quite well be covered by an Editor with a secretary—if the news were handed in by the sports' club secretaries.

But both weekly and fortnightly publications might begin to suffer from "padding" on those occasions when news is scarce and company policy does not change. Even so, there is always some production news.

In most firms a monthly publication is sufficient, but this does not necessarily lead to a lessening in responsibility, although day-to-day happenings cannot be so adequately or so dramatically covered.

Bi-monthly and quarterly publications lead right into the field of the magazine and away from all attempts at "gossip" and news.

Whatever the frequency of publication, the magazine should appear on its appointed day. In these hard times—with fuel cuts and other disturbances, this is a counsel of perfection which might be considered too idealistic, but if the magazine is to be taken seriously it must be published on specific publication days.

Frequency of publication, like many other factors in the production of house magazines, depends on a proper assessment of the scope of the magazine at the outset.

TO CHARGE OR NOT TO CHARGE?

A question which often arises is: "Should a small charge be made for the magazine?" The main argument in favour of a charge is that readers appreciate something for which they have to pay, and that some revenue can be produced to be set aside for the benevolent or the welfare fund, or for the printing of a better magazine. It is claimed that the free magazine has the appearance of a management-inspired hand-out and for that reason it will have a poor reception. In reality, given that the average employee is interested in his firm, there need be no slight of mackerel-catching charity. The well-produced magazine, designed to appeal to its readers, will be read whether free or not. The free magazine, too, will go to every employee. There will be no extra work involved in accountancy, in making pay-roll deductions or collecting the pennies.

A very cynical Editor once told the author that he did not charge because the works people would be sure to remark: "They even want to make money out of us by charging for a magazine now." Industrial relationships in some factories must be at a pretty low level if that Editor was really in touch with his readers and if he was summing up their thoughts accurately. They wanted more than a works magazine at that place!

If a charge is made, then instantly the magazine becomes comparable with other bookstall magazines at the same price. To be fair, a higher standard of journalism will have to be aimed at, especially by those magazines which contain humorous and feature articles. Throughout this section it has been advocated that employees themselves be enticed to provide items of news, although this policy cannot really lead to fine literature or fine journalism. If this theory is correct—and most house magazines seem to agree—then to exact payment is in direct contradiction to it.

DISTRIBUTION

Distribution of internal magazines is usually made when workers are drawing their pay, and this seems the cheapest and most effective method. However, the ideal way is probably that of an American firm which posts its magazine individually to its employees. In this way the magazine gets an

extra build-up and the Editor makes sure that the employee reads it when he is most receptive—in his own home. Wives and families can also share in its columns and so in the spirit of the company.

This will, I think, be found much too expensive and labour-wasting for the large firm in post-war Britain but might be worth investigating by small, compact industrial units.

In small firms, too, the magazine might be distributed with the employee's name typewritten or addressographed on it; this also gives a personal and intimate touch.

TRADE JOURNALS

British Printer.—Bi-monthly. 2s.

Inland Printer.—(American).

Caxton Magazine.

Printing Review.—Quarterly. 3s. 6d.

OTHER WORKS PUBLICITY

Employee Handbooks.—The works magazine can carry in its columns the week-to-week changes in policy, and these changes can be written about objectively and in suitable simple language. But particularly in large organisations, something more permanent and "authentic" is needed when there are sweeping changes in the factory wage-scale, for instance, or when a new bonus scheme is inaugurated. Policy-changes like these must be made known to everybody and, as they are made, they must be recorded in a form to which any member of the organisation can refer. Probably the cheapest and tidiest method is to have detailed booklets printed of all these separate schemes in one standard format and style so that they can be included in a folder. In this way the supervisory staff, and indeed anyone in the firm, can have a permanent and detailed record of all the various employee schemes and they can make revisions quite easily as and when they come along.

These booklets will, of course, all be legally sound, and for that reason alone may make involved reading! Really, the wording could be both direct and correct, but it is necessary to make some distinction between the various types of literature to be produced. It is largely a question of "style." Although everything must be legally sound there must, of necessity, be a different approach to the explanation of the wage-grades from that to a booklet about the facilities of the Recreation Club. There may be opportunity for humour in the latter. But if anyone becomes facetious with the works rules, or the wage-grades, an entirely wrong impression of the discipline of the firm may be conveyed. So all printed matter should be functional first. This does not mean that due regard is not paid to presentation and design—they are most important. In fact, just the opposite is necessary: all printed matter should be most carefully planned.

Whatever booklets, leaflets or pamphlets the firm issues, it is particularly necessary that all the forewords, introductions, prefaces (and, indeed, to a lesser degree the whole tone of the writing) should be true to the management's outlook on its industrial employee relationships. This particular care over forewords is desirable because they are usually written by an executive.

Works people these days are considerably more acute and sensitive than they are sometimes given credit for. They readily notice any form of cant or patronage. There is, perhaps, something left still of that sharp division between "office" and "shop." The "shop" worker tends to be a little suspicious of the office worker and even shy of him, especially if one has a

little authority and is nicely dressed and the other has no authority and is dirty. But to mistake shyness or suspicion for lack of intelligence may lead the pamphlet-compiler into an error of judgment. So there should be no cant, or "writing down," merely direct prose, with a minimum of jargon and few long or involved sentences. There should also be plenty of examples—easy to understand—in books about bonus schemes.

All these detailed booklets, though giving complete information, would probably be considered too weighty for quick reference, and most firms of any size now issue some kind of employee handbook in which all the different items of personnel management can be dealt with. These handbooks can be issued to new workers and will naturally contain short explanations or write-ups of the various schemes, rather than a detailed set of regulations and rules governing every phase or point of every scheme.

Compiling such a handbook is quite a lengthy business because personnel management these days has many ramifications: from petrol, sweets and clothing coupons to sick-visiting, works committees and all the rest. It usually means that each departmental head is asked to write an explanation of whatever schemes are under his control. The personnel manager becomes the Editor and balances the various sections. He may perhaps rewrite many of the articles to get the handbook into an integral whole. Copy is agreed before going to the printer by the chief executive and the firm's legal advisers.

The Institute of Personnel Management have just recently issued a broadsheet. *Preparing an Employee Handbook*, which provides an exhaustive analysis of this type of publication and gives lists of subjects which should be included. This broadsheet, which costs 2s. 6d., breaks a handbook down into eight sections: 1, Message from Chief Executive; 2, The Industry and the Company; 3, The Company's Personnel Policy; 4, Joint Consultation; 5, Terms and Conditions of Employment and Works Rules; 6, Employee Amenities and Services; 7, Education and Training Schemes; 8, General Information. It is very exhaustive, almost as exhaustive as the *£2 How to Prepare an Employee Handbook* of the National Foreman's Institute of Chicago, and just as interesting but not nearly so ornate. Both of these list all the subjects with some bearing on inter-factory relationships that the handbook can contain. If memory serves, the American publication gave nearly six hundred different subjects! But by selective writing, a handbook of wide range can be compiled with fewer.

Presentation of the handbook should be most carefully studied. First, an assessment of the readership. There would be a different technique employed to appeal to the girls in a drapery store than that designed to make its mark with operatives in a steel-rolling mill, and so on. Illustrations and colour should be employed as devices to make the book attractive. Illustrations should not be frivolous. Little sketches and potty little line drawings can give a wholly wrong impression. Rules are rules, and any organised group of people—whether industrial, civic, or national—must submit to discipline.

The handbook should set out to make sure that everybody knows what the disciplinary measures are, and to draw caricatures of people either observing or breaking rules is not, perhaps, quite the right way. One can be friendly without being frivolous or back-slapping.

Another quite useful little booklet could be made of all the committees in the firm. Some firms now have committees in charge of fuel saving, safety and so on, and to list brief particulars of each into one little book is valuable information. A book like this might begin with the Board of Directors and go right down the committee scale to the smallest committee on the sports side. In some firms this would serve to show the "break-down" of authority, and give an idea how the executive work is shared.

So much for the publications side of the personnel or welfare department—for, surely, responsibilities such as these are clearly within the scope of that department and not the advertising side, though the latter's technical knowledge of "putting it over" may be laid under tribute.

The Wall-board.—Apart from these booklets, which give information purely and simply, there may be other smaller booklets publicising some aspect of safety, or others calling for charitable efforts like blood transfusions. There are so many in the course of a year, that to list them would be tedious. These can be treated as strictly advertising brochures, and colour, drawings, isotype figures and other bright ways of presenting facts can be used if necessary.

All these various "publicity" functions within the firm for the propagation and dissemination of company policy and news will probably devolve on one man attached to the personnel department, who might be styled an "inter-works-public-relations" officer. His duties will include supervising the posting of notices around the factory. He will have to see, for example, that Safety Posters are issued and are kept up to date, and that other posters relating to hygiene and health are issued when available.

But he will not have unlimited hoardings at his disposal. In fact, he may have only a modest notice-board in each department. With such a limited scope, the public-relations officer will see that no notice goes up which is not in some way connected with the firm—either on the works side or on the recreational. No notice should go up without management sanction and approval. Unless some check is kept he will find that all sorts of outside organisations are appropriating space, and dances, meetings, whist drives and sports meetings, with no particular relation to the factory, are crowding out those notices which have a particular job to do.

Some factories appear to have different notice-boards for each separate function—i.e. recreation club, Trade Unions, company notices, with boards to carry statutory notices as well. But if there is room it is better to have a large glass-fronted, lock-up, cabinet-type board at each gate or entrance to the factory. This prevents boards covered with ripped and torn notices making odd corners of the factory untidy. It also means that it is much

easier to keep notices up to date; and the position ensures that every employee passes by the board some time during the day. By the use of this system the whole of the factory's bill-posting is kept neat and tidy, the only divergence permitted being the (very rare) issue of special posters with dramatic or hortatory appeal.

Posters for Special Occasions.—Incidentally, it is questionable whether purely peppering-up posters do any good in the works. Such posters as "It all depends on Me" and "Work or Want" and "Keep Death off the Road" may have some value outside the factory, but inside, plastered right in front of workpeople's eyes, they may well have the same effect as if the foreman had a record made of his voice and constantly relayed it over the internal broadcasting system! It is doubtful whether any scientific measurement has been taken of production figures before and then after the issue of such posters, but common sense seems to suggest that they cannot fail to irritate the more intelligent members of the factory community.

This does not mean that such posters are of no value, but merely that they should be positive and in line with the firm's general policy. This extract from *Safety News* of September 1947 is interesting and sums up poster psychology pretty well:

"At a recent meeting of one of the local industrial groups a speaker said that, in his opinion, the effect of an accident prevention campaign on the majority of workers was negligible. To prove this case, he stated that he had made enquiries amongst his work-mates about the posters shown in the works and discovered that only one in ten even noticed them. Only two people to whom he spoke could describe the current poster placed beside the clocking-in station. The general opinion according to this speaker, was that accident prevention posters were ineffective and were a waste of time, money and material. . . .

"One might also suggest that if, in a particular works, the employees do not notice posters, it is because the latter are not effectively displayed. This is quite a plausible answer because it is a known fact that the effect of many excellent posters is completely destroyed by poor display. There is no reason, however, to suppose that this explanation is operative in the case described. It can be accepted that the posters referred to have been displayed to the best possible advantage. It can also be accepted that the speaker was right in saying that only one employee out of ten noticed them. Yet, strange as it may seem, these two facts do not mean that poster propaganda is ineffective. They simply mean that the function of the poster is not properly understood."

The real answer to the speaker's case against poster propaganda is that posters are not intended to act on the conscious mind of the person who sees them. They act on the subconscious mind and their effect is not direct, but indirect.

Anyone with practical experience will know, however, that the shop wit will always find some more easily digested form for the poster. "Work or Want" will probably be changed to "Work and Want" and later to "Work Wanted." The shop sceptic or idealist, too, will see all the minor trouble of the day against a background of posters and will invariably preface his

remark "They say do this, but . . ." and "It's just a waste of paper." In other words, when the management's policy is understood and the employee is fully aware of the usefulness of his work, how that work can bring expansion of the firm and how that expansion will be conducive to his promotion, such posters are superfluous. If the management wraps its policies in secrecy, such posters may be definitely harmful to relationships. Posters should be informative as well as hortatory. The more information that can be conveyed the better. For information and facts develop understanding, but such an understanding is not developed in a short period, anyway. It takes many years of patient plodding.

Broadcast Messages.—There seems no reason why the internal broadcasting system in use in many firms could not be used to better advantage in putting the worker in the picture. The spoken word has certain very definite advantages over letterpress and pictures. While, for obvious reasons, any major piece of company news must be posted up for all to read, there would appear every inducement to have it briefly explained by the executive mainly responsible for it. (It is, of course, all to the good if he has a pleasant voice and some feeling for oratory.) The example of the Royal Navy, where this medium is used regularly by commanders of ships for purposes other than the giving of orders, will commend itself to many firms. Naturally, the broadcast message in noisy workshops has its disadvantages. If the relaying system is a poor one it sometimes merely adds to the noise. Then, again, the worker does not feel that he can ask questions or answer back after a broadcast. He can do this at a talk, and after reading printed matter he can write a letter to the author if he wishes. With a broadcast he sometimes feels as if he is being "talked at."

These factory systems are not usually so well developed as to be able to carry a long speech or talk. But for occasional use, for brief and to-the-point messages from those in authority, they can do a good job. At Christmas, or at the beginning of the holiday period, a short message of good luck and good cheer, so long as it is really meant, will be of some value and adds a personal touch. Even a touch of sentiment will not be found amiss on such occasions, even in the most efficient and hard-baked factories.

Exhibitions.—Exhibitions can be very expensive, but many large firms find them valuable for getting over some particular message. They can range from just a small showcase or two in the works canteen to one of the size of those West End exhibitions which told of the work of the branches of the Services during the war.

The small showcase giving, perhaps, a display of all the products of the firm, with a few words of explanation for each one, can be a permanent feature, its contents being changed every so often. Large exhibitions must naturally come within the sphere of the advertising department, but if they are to be designed so that the works people will also see them, the personnel department should be consulted.

Exhibitions can point out the need for good workmanship, for quality control, for good design and so on, as well as tell the history and something of the traditions of the firm. But if the exhibition is to stress that care in workmanship is essential, its approach must be positive. It should be shown how good products lead to satisfied customers, satisfied customers to more orders, and in reverse, bad products to a lessening in the demand. One firm, I recollect, after showing what bad workmanship could do, put up a large notice saying that now everyone in the factory had seen what bad work was, there was no excuse for it and the next guilty person would be dismissed. This was rank bad psychology.

No internal publicity, however good, can be a substitute for sound organisation. Bad workmanship on a large scale is a matter for the technical departments to solve. Publicity can only excite a pride in the work when actually done, it can tell the benefits of care and precision and so on. But it can never be put in place of jigs and tools properly designed to do the job up to a required standard.

The exhibition then, is probably the most costly form of internal publicity. Unless it is undertaken either by a very large organisation or is open to members of the public (this making it of advertising value), its form and its costs should be gone into very thoroughly.

The Works Library.—There seem to be two main and conflicting ideas about works libraries:

(a) That the library should be rigidly technical (i.e. the books should be about the work carried on in the factory and their issue confined to management and supervisory personnel down to foremen);

(b) That the library should be composed of fiction books available to everybody in the factory, as part of the recreative facilities of the firm.

It is evident that no firm is big enough to have a library as large and as well equipped as the public libraries and, of course, there is no need to attempt to compete in any way. But specialist libraries built up on technical subjects can be very useful. Naturally, some departments will have their own libraries, but there could be a central works library available to all those in a supervisory position. Responsibility for checking the books in and out will probably rest with the welfare or personnel department and will be the part-time work of someone in that department. Keeping the library stocked is a different matter, and a small committee drawn from those eligible to use the library is usually appointed to see to this.

Very few firms adopt the principle that their libraries should contain books (not necessarily fiction) on subjects other than those of technical interest in the particular industry. Yet it may be thought that no industry or firm can afford to divorce itself from the problems of the day, and that the wider and fuller the knowledge of contemporary affairs among all its members, the better will be the chances of prosperity. And this should surely be borne in mind when a library is being collected together. Most heads of

departments get technical and trade magazines sent to them or the firm buys them. If there is a reading-room in the canteen, it might be a good idea to collect these magazines after perusal and put them out for everybody's use in the lunch-breaks.

As for making a library available to everyone in the firm, that is usually out of the question, desirable as it might be. Not only would the cost be out of all proportion to the use, but books would soon become frayed and dirty—especially if the works people had access to them during lunch-breaks. Books would be taken into the shops and would soon become unusable. But there is no reason why, in a large firm, a local fiction library could not put up a small branch in the canteen and run it on a commercial basis. This is what is usually done.

Looking farther ahead, perhaps, the local public library could be induced to open a branch in the firm, to cover the technical as well as the fictional needs of the works people.

In conclusion, it might be as well to stress the importance of all schemes in this section as being long-term. Publicity and education do not get direct results but take a long while to develop. Even then, it depends on the way they are presented and on the policy of the firm. If the firm's employee relationship basic principles are sound, its publicity is almost sure to be sound also. The two are interdependent.

INDUSTRIAL HEALTH

By Gerald F. Keatinge

OCCASIONAL instances of an interest in industrial health can be found even in ancient times, as, for example, the special medical arrangements made by the Romans for the slaves employed in the mercury mines in Spain. In the Middle Ages, the rules of the craft guilds required proper supervision of the health of apprentices by their masters, but it was not until Ramazzini, an Italian physician, published his classical book *De morbis Artificum* in the early eighteenth century that any proper study of the health of the worker can be said to have taken place. It was, perhaps, the appearance of this work in English in 1705 which was responsible for the employment of a doctor by public-spirited employers such as the Crowleys and the London (Quaker) Lead Company in the latter half of the same century. The duties of such doctors were, it is true, concerned more with treatment than the preventive work which is the major preoccupation of a modern industrial medical department, but it must be remembered that the first Medical Inspector of Factories was not appointed until 1898 and it is only since that time that industrial medical services have begun to develop. In 1896, anthrax and poisoning by lead, phosphorus and arsenic had become the first industrial diseases to be notifiable under the provisions of the Factory and Workshop Act 1895, and the investigation of cases so notified was entrusted to the Certifying Surgeon, whose duties had previously been restricted to the examination of young persons under the age of sixteen to determine their fitness for work. Soon afterwards, regulations for dangerous trades began to appear, which in a number of cases required periodic medical examination by a Surgeon appointed by the Factory Department. Although it often fell to the lot of the Certifying Surgeon to carry out the periodic medical examinations of the workers in those dangerous trades in which it was required, this was not always the case, for the doctor nominated by the employer was sometimes approved by the Factory Department as an Appointed Surgeon for this purpose.

At about the same time, a few enlightened and progressive employers, in the days before a National Health Insurance Scheme was in existence, began to appoint doctors in order to make provision for the medical care of the workers and their families, although in most cases the wage earners were not exposed to undue occupational risk.

As time went on, the help of the doctor began to be sought in industrial medical problems outside the scope of his original duties: the Appointed

Surgeon could not divorce himself easily from matters of treatment, nor could the worker's doctor fail to take heed of preventive methods aimed at controlling the occupational diseases which he encountered amongst his patients. Thus, in the larger firms the Medical Officer's time became fully occupied by his work in the factory. So grew up the practice of industrial medicine, dealing in the earlier years largely with treatment of injury and sickness, but tending gradually to become more interested in preventive work; indeed, now that every worker is entitled to the benefits of the National Health Service, treatment occupies but a small part of the time of a Medical Service in Industry. The beginnings of industrial medicine in Great Britain, therefore, were due on the one hand to statutory requirement and on the other to the initiative of the good employer; to that mixture of compulsion and goodwill which is almost a national characteristic.

Whatever the reasons which have led to the introduction of Industrial Medical Services, whether in order to comply with statutory requirements or as a result of the sense of responsibility of the employer for the worker, once they have become established they are seldom abandoned. The medical services of some of the pioneer firms have now been in existence upwards of forty years, and although in the first instance and in some cases the approach to industrial medicine may have been altruistic, nevertheless, it is reasonable to think that those in control have satisfied themselves that this supervision of the health of the worker while at work makes a contribution towards increasing the efficiency of their businesses.

During the war of 1914-18 the health of the workers in munition factories gave rise to concern, and the Health of Munition Workers Committee, subsequently called the Industrial Fatigue Research Board and later reconstituted as the Industrial Health Research Board, which is associated with the Medical Research Council, was set up to investigate the situation. The work carried out by this committee drew attention to the importance of medical supervision in factories, and a considerable impetus was thereby given to the introduction of Industrial Medical Services. Between the wars some of the lessons learnt were forgotten, but, on the whole, progress was steady, and in 1939 it was estimated that there were some three hundred doctors working in industry, of whom about fifty held whole-time appointments. During the recent war a great expansion of Industrial Medical Services took place, in part due to the example set in the factories controlled by Government Departments, especially the Ministry of Supply, and in part by the sanction of the Factories (Medical and Welfare Service) Order 1940. This, although never actually used, gave power to the Chief Inspector of Factories to require the occupiers of factories engaged on munition work to set up medical services where he considered them necessary. By 1944 there were nearly two hundred full-time and nine hundred part-time doctors in industry, and although the number of full-time medical officers has fallen since the end of the war, largely on account of the dispersal of the very large numbers of workers

engaged on munition work for which they were required, nevertheless, the trend towards the establishment of medical services throughout industry continues, especially in those under Government control. The Ministry of Supply manages a considerable number of factories and maintains a large-scale medical service, while the National Coal Board is engaged in developing such a service. Expansion of medical work has also taken place in private industry, not only in those sections in which it has been long established, but also to a great extent amongst firms which have not hitherto appreciated the benefits to be gained by the establishment of a Medical Department. There is no doubt that this expansion will continue, for more and more employers have come to realise that the human "material" is the employer's greatest asset in the factory; and it is self-evident that maximum production is only possible, especially in these days of shortage of labour, if the health of the individual worker is kept at a high level. Moreover, legislation with the object of creating an industrial medical service has been foreshadowed, and many progressive employers are anxious to establish their own service rather than to have it imposed upon them by statutory requirement.

Although much has been heard of late about a Medical Service in Industry, a great deal of misconception still exists concerning its functions. It is the fact that industrial medicine is essentially preventive in character rather than curative, which management and worker alike find hard to understand, and this is not very surprising, for until recently first aid constituted the only form of medical service in most industries and the emphasis was therefore strongly on treatment. Prevention is now the keynote and it cannot be emphasised too much that however important primary treatment may be, especially in the more hazardous industries, nevertheless the activities of the modern Industrial Medical Service should not extend beyond it, except in special circumstances.

The principles of preventive medicine as applied to industry are put into practice by submitting all new entrants to a careful "placement" medical examination which should take place at the time of engagement if possible, but in any case as soon as practicable thereafter. In those about to work in a dusty environment, X-ray examination of the chest is greatly to be desired and, indeed, in those about to enter work involving a risk of pneumoconiosis it is required under the National Industrial Injuries Act, as also is periodic re-examination including X-ray following exposure to risk. Not only is it important to form an opinion of the physical condition at the placement examination, but some attempt should also be made to evaluate the personality, at any rate in young persons.

Periodic examination has already been mentioned and should be carried out in the case of the young person at frequent intervals. Such examinations are the rule during schooldays and are even more important on entering industry, at a time when physical development is taking place rapidly and when overstrain may be expected to show itself. By means of such examina-

tions, latent disease may often be recognised and treated, with a greater chance of success than is the case when it has become fully established. Constant education of employees is required to make sure that personal hygiene is not neglected: special lectures may be given to groups of workers on these and similar subjects, but in general, advice to the individual as opportunity offers is the more successful method.

Good primary treatment of accident and illness is essential and, indeed, is itself a form of preventive medicine, for it will usually spare the worker suffering by reducing the risk of subsequent complications. Full, complete and technically accurate records are the basis for the efficient running of industry and they are of at least equal importance in the Industrial Medical Department.

Records have been needed in the past for purely legal purposes in order to comply with the provisions of the Workmen's Compensation Act 1926, and they are also required by the regulations which the Minister has made under the National Industrial Injuries Act. There are, however, better reasons than these for keeping full notes.

A good case-history is often of immense value when a decision is being made as to the appropriate treatment of an accident or illness. This in itself is sufficient justification for a meticulous record, but, as always in the practice of industrial medicine, there is the preventive aspect to be considered. Records kept in the surgery are the pointers to the danger-spots in industry, and to the "accident prone" as well as to the incidence and kind of accident or illness taking place in the factory or mine. Without them, the state of health of the working community and of the individuals who compose it is as much a matter of guesswork as the state of the finances of the organisation would be without an accounting system. Good records have been described as "the seeing eyes of industrial medicine," and by means of them the nature of the illness occurring in the industry becomes clear. Moreover, attention is drawn to defects in the environment which may be a cause of ill health. Thus, an increased incidence of accident or illness in any given department should at once become obvious by means of an adequate record-keeping system: an appropriate investigation of the situation can then be undertaken and suitable measures instituted to control it if required. Statistical research of this kind yields important information and is urgently required in industry, which is relatively unexplored in this respect. But the Medical Department must also be prepared to take its part in field research and to study the effects on health of environmental conditions.

The medical record and history of the individual worker, except in so far as they are required for legal purposes, must, of course, be regarded as confidential documents, the contents of which must not be divulged to a third party without the consent of the workman. The Medical Department would be guilty of an ethical offence if information gained in a professional capacity were so divulged; indeed, the confidential

doctor-patient relationship is the only foundation on which a successful Industrial Medical Service can be built.

Nevertheless, a considerable mass of material relating to the health of the community and its environment, which cannot be considered in any way confidential, comes to the knowledge of a progressive Medical Department and is recorded by it. Such records should be at the disposal of the safety organisation, which cannot be wholly efficient if it fails to keep in touch with the Medical Department. In fact, the integration between the two departments should be so close that the scope of the one dovetails into that of the other. A health programme in industry would not be complete without supervision of those returning to work after absence due to sickness or accident. It is, of course, mainly the employee who has been away on account of prolonged incapacity for work who is most in need of attention. Frequent short absences are not to be ignored, however, for they may be an indication that the particular employment is beyond the powers of the individual or that serious but only partially declared disease is present. Careful enquiry should be made into the circumstances of such cases so that the physical limitations from which the worker suffers may be known and, if possible, suitable work arranged for him. The reaction to work of those for whom arrangements of this sort are made must be followed up, and appropriate up-grading or down-grading carried out according to the person's physical condition.

Such a system will be essential when the provisions of the Disabled Persons Act make themselves fully felt, for without it the object of a great part of the elaborate plans for the rehabilitation of the sick and injured will fail to be achieved. The placement of the disabled person will, of course, be correlated with the original assessment of his disability, and it may be that both these duties will come within the scope of the Industrial Medical Officer, for although under the National Industrial Injuries Act a medical board is envisaged as the normal procedure for dealing with cases, its place in so far as temporary disablement is concerned may, with the consent of the workman, be taken by an individual doctor. The doctor in industry, however, should at all costs avoid becoming involved in disputes arising under the provisions of the existing Workmen's Compensation Acts as a result of actions at Common Law.

Something has already been said about the study of environmental conditions. Problems about sanitation and washing facilities are clearly the concern of the Medical Officer and his staff, and they should also draw attention to defects in heating, lighting and ventilation, or even in the design of machines which may have a great effect on health, as often enough they are physiologically unsound from the point of view of the workmen.

Quite as important is the study of plans for projected new buildings. Glaring omissions in matters of the utmost importance to health are met with so often in quite modern buildings that an obvious economy can be brought about by the submission of plans to the Medical Department for

comment so that alterations can be made, if necessary, before the building is put in hand.

Not everyone finds it easy to look on the doctor as concerned with matters other than treatment, and some are still inclined to take the view that environment is a matter which might well be left to the architect or engineer and on which the opinion of the doctor is of little value. Industry has not yet learnt how to get full value from a Medical Department which is regarded too often as a form of welfare with no contribution to make towards production. Industry has a responsibility towards those it employs to make conditions at work as safe and healthy as possible and, on moral grounds alone, a Medical Service in Industry is imperative. Nevertheless, the institution of a Medical Department is not pure altruism. That it forms an important part of the welfare activities of an organisation will not be denied, and as such may perhaps be considered altruistic in approach, but the part that it plays in the maintenance of good industrial relations must be regarded as an asset real enough if somewhat difficult to assess.

A Medical Department, however, goes much farther, fulfilling the same function in respect of human machines as does the maintenance engineer for the man-made machines in the factory. Selection of workers who are physically fit for the work they will be called upon to do is no less in the interest of employer as of employee, and the maintenance of the health of a human being is at least as important as is the keeping of a machine in good repair. A machine will not last long if it is used in an unsuitable environment and, in fact, the environment is in many industries conditioned to meet the needs of a particular process. It is surely of equal importance to render environment as far as possible suitable for the maintenance of health of those who work in it.

The selection of workers and their constant supervision in the widest sense from the health point of view must result in a healthier, happier, more contented and more efficient community. Even if it is regarded solely as an aid to production, it can hardly be denied that the Medical Department makes a considerable contribution towards this end.

Apart from these considerations, it is quite clear that the days of plentiful and cheap labour have gone. Industry will have to compete for recruits, and there is little doubt that the worker of the future will attach much importance to healthy conditions at work and will be guided by them to a considerable extent in his choice of employment. All this is true also of the young persons who will be fewer in the future, and to attract them, use will have to be made of something more than a financial inducement.

THE INDUSTRIAL MEDICAL OFFICER

The development of the practice of industrial medicine has inevitably been associated with the names of a few organisations employing a sufficiently

large number of people to justify the appointment of one or more full-time Medical Officers. This has given rise to the idea that a satisfactory medical service can only be established by the large firm which is able to find work for a full-time doctor. There is no justification for such a view, if only for the reason that within the structure of the big combine or Ministry having a well-established Medical Department are to be found many small factories, often situated in isolated places, for which a medical service can only be provided on a part-time basis.

The problem of providing medical supervision for the smaller factory has in some cases been met by the appointment of a local practitioner working under the general direction of an experienced full-time Industrial Medical Officer, while in others it has been possible for a number of small factories, each only sufficient in itself to require the services of a part-time doctor, to employ a full-time Medical Officer on a co-operative basis. A scheme of this kind, sponsored by the Bedford Engineering Employers' Federation and embracing ten firms with nearly eight thousand employees amongst them, has been in successful operation for a number of years, while here and there in various parts of the country doctors experienced in the practice of industrial medicine have established themselves as Specialists undertaking a number of part-time posts. In other cases they act as Consultant Medical Officers, advising on the installation of Medical Services in Industry, entrusting the day-to-day work to a general practitioner in a part-time capacity or occasionally, where the work demands, to a full-time doctor. In these cases the Industrial Medical Specialist exercises general supervision over the service, especially in regard to those aspects of the work requiring special knowledge and training beyond the scope of the average medical man, as, for example, is needed in certain kinds of environmental study.

Whether a doctor is appointed on a full-time or part-time basis, he should be responsible to management at a high level—preferably to the Managing Director or an officer of similar status in Government organisations. This is not always practicable, especially in the very large combine, and the Chief Medical Officer of one highly developed and old-established medical service is responsible to the Chief Welfare Officer.

On the other hand, the Chief Medical Officer of a large Government industrial organisation has direct access to the head of the production side. Whatever the system may be, it is of great importance that close liaison should be maintained between the Personnel or Welfare Department and the Medical Department, for overlapping can hardly fail to occur in the presence of two active departments and differences are less likely to develop if good relations exist between them.

The large-scale industrial organisation with units in many parts of the country usually finds that co-ordination of its medical service is best achieved by the appointment of a Chief Medical Officer, and, working under his direction, Group Medical Officers, having responsibility for a particular region

or type of industry. Where a considerable nursing staff is employed, a Chief Nursing Officer is essential to deal with the many problems which arise and to make sure that the nurses carry out their duties properly.

Adequate administrative staff is also essential, for without it analysis of the records which should be kept in every well-run Industrial Medical Department is impossible, and without such analysis much of the value of the department is lost. The general principles of the work undertaken by an Industrial Medical Department have already been indicated, but the code of duties and ethical rules for Industrial Medical Officers drawn up by the British Medical Association covers the ground in more detail and is therefore given below :

Duties of and Ethical Rules for Industrial Medical Officers

The duties which form the basis of the industrial medical officer's work vary considerably according to the needs of the individual industry or commercial organisation. In the following paragraphs are set out the duties which may properly be undertaken by industrial medical officers when so required :

- (i) Examination of applicants for employment and advice as to their selection.
- (ii) Immediate treatment of medical and surgical emergencies occurring at the place of employment.
- (iii) Examination of persons returning to work after illness or incapacity.
- (iv) Periodical examination of persons exposed to special hazards.
- (v) Responsibility for the efficiency of the nursing and first-aid personnel and equipment.
- (vi) Advice to the management regarding :
 - (a) The hygiene of the factory.
 - (b) The health conditions of the workers.
 - (c) The occurrence and risk of dangerous hazards.
 - (d) The accident prevention arrangements.
 - (e) Factory legislation concerning health and safety and the special diseases to which the particular industry exposes the worker.
- (vii) Maintenance of close touch with the management to ensure that conditions are such as to produce the highest degree of mental and physical welfare of the workers.
- (viii) Continued observation of all young persons with a recommendation where necessary for the provision of free meals or milk.
- (ix) Continued observation of all persons returning to work after prolonged illness.
- (x) The medical supervision of canteens to ensure the cleanliness, good quality and physiological adequacy of the food.
- (xi) Advice to the works council welfare departments, benevolent fund committees, etc., on any matter affecting the health of the workers.

(xii) The arranging and carrying out of such educational work in respect of the health and fitness of the workers as may be desirable and practicable.

(xiii) Ready accessibility to employees for medical advice upon matters relating to their work.

(xiv) Encouragement of supervisors to report signs of ill health in any of their workers.

Ethical Rules

Subject to statutory requirements these rules shall, where existing ethical rules of custom fail to cover the circumstances, govern the professional relationships between medical officers attached to industrial and commercial concerns, their colleagues in general practice, and the workers and staff under their professional care and charge. The rules apply not only to whole-time officers but to those employed part-time or in a casual consultative capacity.

1. In carrying out their duties, industrial medical officers shall be guided generally by the following ethical code:

(i) The industrial medical officer shall render such emergency or first-aid treatment as is required at the place of employment, and shall inform the worker's own doctor of any treatment given. Where further treatment is deemed necessary, the worker shall be instructed to consult his own practitioner.

(ii) Where there are special facilities or equipment and suitable transport arrangements are available, if it is in the interests of the patient, continuing treatment may be given at the factory clinic with the consent of, and in consultation with, the worker's own practitioner. In these cases some such form as the following should be used:

Date.....

Dear Sir,

Re..... Address.....

This patient has been sent home and advised to consult you. Should you consider that the special facilities of this clinic would be useful for the purpose of applying dressings or carrying out such treatment as you desire, I shall be pleased to arrange for this if you will instruct the patient to report to me.

Yours faithfully,

..... Medical Officer.

Remarks by patient's own doctor

This note may be handed back to the patient.

(iii) In cases where the industrial medical officer considers that by attending at the factory clinic for dressings or special treatment instead of obtaining such treatment elsewhere the worker might be saved loss of time and/or employment, he shall communicate with the worker's own practitioner and offer the facilities of his clinic.

(iv) The industrial medical officer shall not provide treatment in cases of disability, save in such instances as may be covered by an under-

standing with a committee representative of the local medical profession or where there is an *ad hoc* agreement with the worker's own practitioner. Such treatment shall be given only with the consent of the worker.

- (v) The industrial medical officer shall consider and advise upon the occupation of any worker whose duties appear to be too heavy or otherwise unsuitable, and where necessary he shall consult the worker's own doctor.
- (vi) The industrial medical officer shall, after communication with the worker's medical attendant (a) examine and advise concerning those workers engaged in hazardous or arduous occupations: also those about to be transferred to heavy or dangerous occupations; and (b) examine and report to the works management upon those workers who appear suitable for early pension or retirement or in regard to the continuance of invalidity payments.
- (vii) The industrial medical officer shall not carry out domiciliary treatment.
- (viii) A whole-time industrial medical officer shall not treat any member of the worker's family who is not employed at the factory.
- (ix) A part-time industrial medical officer shall not utilise his position to influence the worker to choose him as medical attendant or family doctor.
- (x) The industrial medical officer shall not, except in an emergency, or where a prior understanding with the local practitioners is in operation, send any employee direct to hospital. Where he considers attendance at hospital to be necessary or advisable he shall refer the employee to his own medical attendant and may make a suggestion to this effect to the latter.

Where, in an emergency, the industrial medical officer sends a worker to hospital, he shall advise the relatives (if the patient is detained) and the worker's medical attendant.

- (xi) Where an industrial medical officer has occasion to examine and to report to the management concerning the condition of any worker who is absent from his employment on account of illness and is being treated by his own medical attendant, he shall conform to the Ethical Rules for Medical Inspectors laid down by the Association. In this connection an industrial medical officer shall, with the consent of his employer, place his special knowledge at the disposal of the attending practitioner.
- (xii) The industrial medical officer should, where possible, respond to any invitation to meet the worker's practitioner in consultation.
- (xiii) Except in emergency the industrial medical officer shall not carry out any individual preventive measure without the individual consent of the worker, and prior agreement with the worker's medical attendant.

He shall in no way associate himself with experiments which involve the active participation of the workers without their consent and the prior notification of the worker's doctor or doctors.

- (xiv) The medical records of the workers maintained by the industrial medical officer are confidential documents; they must remain in the custody of the industrial medical officer or of his deputy. Access to them must not be allowed to any other person save only to another registered medical practitioner and then only at the request or with the consent of the worker.
- (xv) The industrial medical officer shall at all times be responsible for the safe custody of his medical records. On termination of his appointment he shall make arrangements for the safe custody of his records until such time as it is possible to hand them over to his successor.

2. Where nurses are employed by the management the industrial medical officer shall instruct them to maintain the proper ethical code for nurses. Any professional matter must be treated as confidential and disclosed only to the industrial medical officer or the worker's own medical attendant.

3. The term "consultation" in these rules shall be understood to include a written or telephonic communication addressed by the industrial medical officer to the medical attendant. In the absence of a reply within a reasonable time the industrial medical officer shall be at liberty to assume the other doctor's agreement.

4. The industrial medical officer shall not hold the position of Examining Factory Surgeon¹ in the same area as that in which the factory concerned is situated.

The Examining Surgeon may not accept an appointment in his district without first having obtained the approval of the Factory Department and as will be seen under rule four of the Ethical Code the same principle is laid down as it were in reverse. Nevertheless, to quote the Factories Act 1937,

"the Secretary of State (now the Minister of Labour) may authorise a medical practitioner who is employed by the occupier of the factory in connection with the medical supervision of persons employed in the factory but is not otherwise interested in the factory to act as examining surgeon for that factory for the purpose of examining and certifying the fitness of young persons."

The schedule of duties laid down by one large combine for its medical officers is similar, but includes some provisions which could with advantage be adopted by industry at large, as for example:

The medical officer shall maintain the closest possible contact with local hospitals, public health authorities and their staffs.

For the proper furtherance of the interests of the Company and of its employees, the medical officer shall keep himself in touch with current medical thought, either by

¹ Now known as the Appointed Factory Doctor.

close contact with a local teaching hospital, by special study leave, or otherwise as may be practicable.

The medical officer shall undertake such appropriate research and investigation in connection with the Company's products or processes, or contemplated products or processes, as may be required by the Company from time to time.

The success of a Medical Service in Industry depends, as does any form of medical practice, on confidence—in this case a tripartite confidence between management, worker and practitioner—and to achieve it a right choice of doctor is essential, especially in the case of a first appointment. Workpeople often have a certain amount of suspicion about the doctor, especially at the inception of a medical service, and they regard him not infrequently as a "gaffer's man." Although this feeling is soon dispelled if the right type of doctor is appointed, it is better to avoid it altogether, and in order to do so the workers can be given a say in the choice of doctor by discussing the proposals at the Works Council. In some cases special Health Committees have been set up to deal with such matters. These have the advantage that they can be used later by the Medical Department as a means of educating employees in matters of health. The British Medical Association Committee recommends that the Industrial Medical Officer should be "a man or woman of wide sympathies and interests, and one who is able to work harmoniously with others and to see the point of view of both the management and the workers. He should have good experience in general practice, some special knowledge of the treatment of injuries and an interest in occupational hazards. He should also have some first-hand knowledge of the social conditions prevailing in an industrial community." He will also need to be well acquainted with legislation relating to industry, especially that concerning compensation for industrial injuries or diseases, the rehabilitation and placement of disabled persons, as well as the statutory requirements in the particular industry or industries in which he is to work. He must be able to carry out environmental studies of working conditions and should be able to advise the management on questions of heating, lighting and ventilation, and seating from the health point of view.

A person possessing these qualities is not easy to find, although a wider choice may become available when more doctors have undergone the comprehensive training and searching tests which are required in order to obtain one of the newly instituted Diplomas in Industrial Health now awarded by the Society of Apothecaries of London, the Conjoint Examining Board of the Royal College of Physicians and the Royal College of Surgeons, and some of the Universities.

The scale of remuneration for Industrial Medical Officers drawn up by the British Medical Association includes an indication of the fees payable in the case of part-time appointments, which is given on the facing page.

Fees for part-time appointments in factories where no full-time medical officer is employed:

- (1) The salary should be an annual one.
- (2) Where the average time spent, including travelling time, is less than 1 hour per week, the salary should be 50 guineas per annum minimum.
- (3) In other factories the scale should be based on the following minimum scale which takes into account both the number of hours' work involved per week, both inside and outside the factory, and the number of visits paid to the factory. Each visit is reckoned to be of not more than 2½ hours' duration.

The salary specified covers not only routine work, but also telephone consultation, preparation of memoranda, advice on Government publications, etc.

<i>Hours per week approx</i>	<i>Salary (gns)</i>	<i>Visits</i>
1	50	1
2	100	
3	150	
4	200	2
5	200-250	
6	300-350	3
7		
8		
9	400-450	4
10		
11		
12	500-550	5
13		
14		
15	600-650	6
16		
17		7

- (4) Where the appointment involves more than 17 hours per week or more than seven visits each of not more than 2½ hours' duration, a whole-time officer should be appointed.

The above should be subject to an addition of not less than 20 per cent. in respect of cost of living bonus.

NURSING AND STAFF

Most of the larger factories, according to their size, can usefully employ one or more nurses although, of course, much will depend on the hazards of the particular industry. State Registration, with good experience of ward, theatre and casualty department following it, are the minimum qualifications for the nurse in industry, and it is an added advantage if she also holds an Industrial Nursing Certificate. Such a certificate is a guarantee that a nurse has at

least the basic knowledge of industrial legislation, the social services and the special problems associated with medical work in industry which it is essential that she should possess if she is to carry out her duties with full efficiency. The training which she has received will also have the advantage of enabling her to understand the functions of a Welfare Department as well as the need for a close liaison with it. Besides technical skill, the nurse engaged in industry requires other qualities, not least amongst which are tact, patience and a sense of humour. She must be able to get on well with people of all stations in life and yet to have their respect. She must be on good terms with first-aid men, but she must also maintain sufficient discipline to be able to instruct them in their duties as required. Above all, she must have a real liking for preventive medical work and the statistical duties it imposes, for without adequate records the greater part of the value of a Medical Department will be lost. It cannot be emphasised too often that although a great part of the nurse's time of necessity may be taken up with treatment, it is the preventive side of the work which is of most importance.

The terms of a nurse's appointment should be given to her in writing, as by so doing there is no possibility of misunderstanding taking place later. Recommendations of the Royal College of Nursing are printed as a guide:—

Method of Appointment and Status

The method of appointment and status of the nurse should be in accordance with that of other members of the firm's technical, salaried staff. Where a medical officer and/or Sister-in-charge are employed, the appointment of the nurse should be made in consultation with them. Terms of appointment should be confirmed in writing, and it is strongly recommended that personal and professional references should be taken up before appointment.

It is recommended that the following titles be used:

- (i) Sister.
- (ii) Sister-in-Charge.
- (iii) Nursing Superintendent.
- (iv) Chief Nursing Officer.

Salaries and Conditions of Employment

Salaries.—The following salary scale for State registered nurses employed in industry and commerce has been revised to relate it to the recommendations of the Nurses' Salaries (Rushcliffe) Committee for State registered nurses in the Public Health Service.

Commencing salary should be at the appropriate point within the range, allowing for annual increments.

Sister or Sister-in-Charge

State registered nurse	£290 × £15 to	£395
State registered nurse with Part I Midwifery ..	£300 × £15 to	£405
State registered nurse with Industrial Certificate	£320 × £15 to	£425
State registered nurse with Industrial Certificate and Part I Midwifery	£330 × £15 to	£435
(Add £20 for supervision of 1 to 4 nursing personnel.)		

Sister-in-Charge or Nursing Superintendent

State registered nurse with Industrial Certificate, Part I Midwifery
and supervision of 5 to 20 nursing personnel £455 × £15 to £560

Chief Nursing Officer £600 rising by £25 per annum

Allowances

Uniform to the value of £15 per annum.

Costs of laundering and/or dry-cleaning uniform.

Travelling and other out-of-pocket expenses while on business for the firm.

Hours of Duty.—It is recommended that the Health Department should be staffed during the usual working hours of the factory or establishment. If this operates to the disadvantage of the nursing personnel by comparison with the hours worked by other members of the same staff grade they should be compensated by additional leave.

Shift Work.—If the nurse is required to work on a shift system, shifts should be taken in rotation.

Night Work.—Permanent night duty is not recommended.

Part-time.—Payment should be for hours worked pro rata to a normal hour week. If not more than 30 hours a week are worked 12½ per cent. should be added to the mean of the salary scale for the grade.

Annual Leave.—The nurse should be granted the same period of leave as other members of her staff grade, providing this leave is not less than two weeks per annum in addition to the statutory Bank holidays.

Sick Leave.—The nurse should be granted the same sick leave as other members of her staff grade.

Pensions.—Employers are urged to contribute to the Federated Superannuation Scheme for Nurses and Hospital Officers (contributory) on behalf of their nursing personnel.

Indemnity Insurance.—It is recommended that the nurse should be covered by an insurance policy in case of risk to her patients arising from her treatment. Such a policy is available through the Royal College of Nursing to its members at special rates.

Post-Certificate Study.—The nurse should be given adequate opportunity to attend appropriate study or refresher courses, with reasonable expenses allowed.

Consultation with Professional Organisation.—The nurse's right to consult her professional organisation should be respected.

Termination of Appointment.—It is recommended that appointments should be terminated by a month's notice in writing, on either side; alternatively by payment or forfeit of salary in lieu of notice.

Duties and Responsibilities

Where there is a full-time industrial medical officer the nurse should be responsible to that officer. Where there is a part-time medical officer, the nurse should be responsible to that officer in professional matters, and to a senior executive officer of the firm in administrative matters. Where there is no medical officer the nurse should be responsible to a senior executive officer of the firm in administrative matters, and when necessary in professional matters she should seek medical guidance, e.g. from employees' own doctor, H.M. Medical Inspector of Factories, examining surgeon, etc.

1. *Administration of the Health Department*

- (a) To be responsible for the cleanliness and general efficiency of the Health Department and for first-aid arrangements in the factory.

- (b) To be responsible for maintenance of the equipment and medical supplies.
- (c) To assist, as may be required, with the supplementary training of first-aid and auxiliary personnel.

2. *Nursing Care*

- (a) To give first-aid treatment to injuries and emergency treatment in cases of illness.
- (b) To send notification regarding cases as follows:

DETAINED IN HOSPITAL

To the appropriate authorities within the firm.
To the employee's own relatives.
To the employee's own doctor.

SENT HOME

To the appropriate authorities within the firm
To the employee's own doctor.

SENT TO EMPLOYEE'S OWN DOCTOR

To the employee's own doctor reporting treatment given in the factory Health Department and offering facilities for further treatment if prescribed by the doctor.

- (c) If an employee who is at work appears to be suffering from an infectious or contagious disease, and there is no medical officer, to consult the patient's own doctor where practicable; otherwise to ask a local medical practitioner to see the employee at the factory (the employee should be kept in isolation pending the doctor's arrival) or to send the employee home and to notify his or her doctor of action taken, with particular reference to urgency.
- (d) Where desired, and when this duty is not undertaken by another department of the firm, to visit injured or sick employees at home or in hospital in order to keep in touch with their progress and their needs.

3. *Assistance with Medical Examinations*

To assist with the following medical examinations at the factory:

Applications for employment.
Young persons.
Employees returning to work after injury or sickness.
Employees exposed to occupational disease hazards.
Other employees as the need arises.

4. *General Health Supervision*

- (a) To see and advise all employees before they are sent home on grounds of injury or sickness.
- (b) Where practicable to interview all employees on their return to work after absence due to injury or sickness.
- (c) Where necessary, to arrange for the treatment of physical defects revealed by medical examination.
- (d) To co-operate with the Personnel Department or other appropriate authority as follows:
 - (i) In all matters relating to the health and rehabilitation of employees.
 - (ii) In the selection and placement of applicants from the point of view of health.
 - (iii) By supplying relevant health information regarding any employee, with his or her consent.
- (e) To give special supervision, in accordance with statutory requirements, to the health of employees exposed to occupational hazards.
- (f) To promote health education among employees by means of individual instruction,

lectures, films, posters and leaflets, co-operating as far as possible with other community agencies.

5. *Factory Hygiene and Accident Prevention*

- (a) To acquire knowledge of the nature and hazards of industrial processes being carried out in the factory.
- (b) To report to the appropriate authorities within the firm on working conditions affecting health.
- (c) In the absence of a medical officer to report to the appropriate departments regarding an employee who is engaged on work for which he appears to be unsuited on health grounds.
- (d) To attend the appropriate committees concerned with health and safety and to co-operate in carrying out their recommendations.

6. *Additional Service to Employees*

- (a) To advise the canteen management regarding special diets ordered on medical grounds.
- (b) To co-operate in arrangements for blood transfusion and mass radiography services.
- (c) To encourage, by report to management, the establishment of ancillary health services, e.g. dental, ophthalmic, etc.

7. *Records and Reports*

- (a) To receive daily notification and medical certificates from the appropriate departments regarding employees absent from work owing to injury or sickness.
- (b) To co-operate with the firm's statistical department in compiling accident and sickness statistics, or to prepare these where no such department exists.
- (c) To keep records of all routine medical examinations and re-examinations and to record all cases of injury or sickness receiving attention in the firm's health department.
- (d) To supply to the appropriate department particulars required for statutory notification of accident and cases of industrial disease.
- (e) To prepare, at stated intervals, a report and statistical summary of the work of the department for submission to the management.

8. *Co-operation with other agencies*

To establish and maintain contact with appropriate community organisations, particularly with any local medical and nursing services available to employees.

First-aid Staff.—In all factories employing fifty or more people the Factories Act 1937 requires a person trained in first-aid treatment to be in charge of first-aid equipment (*see page 260*). It is good practice to follow a similar plan however few the number of those employed, although, of course, in many cases a trained person will carry out first-aid duties on a part-time basis.

The training provided by the existing courses arranged by the recognised bodies—as, for example, the St. John Ambulance Association and the British Red Cross Society—is not wide enough in scope for those working in industry, and the Factory Department has encouraged the development of a scheme to provide facilities for further training which it is understood is at present under consideration. Nevertheless, medical and surgical emergencies sometimes occur in industry which may have to be dealt with by untrained staff, and some suggestions follow which may be found helpful to supplement the information given in the standard first-aid manuals.

TREATMENT OF ACCIDENTS

General Instructions.—First-aid Attendants must not do anything which might be construed as “practising medicine.” Duties must be performed under the supervision and direction of a Medical Officer or the patient’s own doctor.

These instructions should not be regarded as relieving any First-aid Attendant from the full responsibility for using his/her judgment based on training and experience in handling emergency cases.

First-aid Attendants should complete an Attendance Book. Accuracy of record is imperative. No treatment should ever be undertaken without the full consent of the employee.

The hands should be washed before and after having dealt with each case. Clean cases should be treated so far as possible before infected cases, in which removal of dressings and application of fresh dressings should be done with instruments.

All the following cases must be sent to hospital :

1. Gross eye injuries or intraocular foreign bodies.
2. All fractures or suspected fractures, except as hereinafter indicated.
3. All major lacerations, especially where injury to tendon or nerve is suspected.
4. Extensive second- or third-degree burns.
5. All head contusions where there is a history of loss of consciousness, or dizziness.

Abrasions, Lacerations.—The following instructions apply to initial treatment of minor cuts, abrasions and to re-dressings, unless otherwise instructed by a Medical Officer or the employee’s own doctor :

(a) Wash and dry own hands.

(b) Take a pair of forceps which should be stored in a jar containing a solution of Dettol 4 per cent. in spirit; with this, grasp a sterile wool swab from a container. Pour a little Cetavlon solution into a small enamel bowl, and with this clean the injury and 3 inches round.

(c) The use of an elastoplast dressing is often convenient in the case of trivial wounds, but it will be necessary to swab the surrounding area of skin with æther meth., using a clean swab for the purpose, for if this is not done the dressing will fail to adhere satisfactorily. If the injury is of a more extensive nature, a sterile dressing such as those required by the Factories Act should be used, taking care not to soil the gauze which is to be applied to the wound.

(d) Do not cover entire dressings with adhesive: air is essential for healing. Never apply a dressing so tightly that it will restrict circulation.

(e) Cut any dressing with scissors kept in Dettol.

(f) Always wash and dry forceps before putting them back into the jar of Dettol.

All dressings must be minimal consistent with efficiency, and early movement of finger injuries not involving damage to tendon or bone encouraged.

In cases occurring in men working in dirty trades, where a bath will be taken on leaving work, instructions should be given that the outer covering of the dressing is to be taken off after the bath and replaced by a clean bandage which should be provided for the purpose. It must be made absolutely clear that the actual dressing of the wound must not be disturbed.

Complications of Lacerations.—Great care must be exercised to detect all complications. They are:

(a) *Infection.*—May or may not be accompanied by a raised temperature. If fever is present, the infection may be more serious than infection with a normal or sub-normal temperature. The temperature of all cases of suspected infection should be taken and noted.

Sign of Infection

(1) Cellulitis. Localised skin redness surrounding the wound.

(2) Lymphangitis. Superficial streaks of redness running from the wound, indicating involvement of the superficial lymphatic system.

(3) Lymphadenitis. Enlargement of the lymphatic glands due to infection.

Common sites for Swollen Glands

(1) At the elbow joint.

(2) In the arm-pit.

(3) Side of the neck.

(4) In the groin.

All cases of infection should be referred to the Medical Officer or the employee's own doctor.

(b) *Severed Tendons.*—The integrity of tendons is checked by tendon function. The size or length of the laceration must be totally ignored. Small one-half-inch lacerations have been found to have severed all the extensor tendons at the wrist. In every case where there is any doubt, refer to hospital.

(c) *Nerve Injury.*—This type of injury is not easily detected. Loss of sensation indicates severance of nerve, and this is easily checked. Motor-nerve injury, except in the case of large motor trunks, is more difficult to detect because complete loss of function may not occur. The nerves which are particularly likely to be injured in industry are those supplying the hand—namely, the ulnar, median and radial. If the patient is unable to spread his fingers apart, it indicates injury to the ulnar nerve. If he is unable to extend the wrists and fingers at the knuckle joint, it shows the radial nerve has been damaged. If he cannot open and rotate the thumb and make the tip of it touch the tip of the little finger, it shows damage to the median nerve.

Scars.—To prevent excessive scar formation, lacerations over knuckles require stitching, as such injuries tend to heal slowly. Scars over joints may also be painful. Any wound showing excessive scar formation should be brought to the attention of the Medical Officer or employee's own doctor.

Hæmorrhage.—Bleeding is either venous or arterial, and always calls for immediate attention. In almost all cases, direct manual pressure applied

over sterile gauze packing at the site of the bleeding will control the hæmorrhage. Clotting will occur in five minutes. If the bleeding is arterial, and in an extremity, a tourniquet may be used. In the upper extremity, a blood-pressure cuff may be used. A tourniquet should be released every fifteen minutes for two minutes, then reapplied if necessary.

Foreign Bodies.—Embedded foreign bodies may cause discomfort and pain. If the presence of a foreign body is suspected, the case must be referred to hospital.

Puncture Wounds.—Puncture wounds are divided into two types:

- (a) Those having an entrance only;
- (b) Those having an entrance and an exit.

The wound will be dressed as described under "abrasions." Those having an entrance and an exit must be referred to hospital, the Medical Officer or the patient's own doctor. Those having an entrance only may be treated as already described under abrasions and lacerations, but if they do not heal promptly they must be referred to the Medical Officer or the employee's own doctor.

Bone infection, or osteomyelitis, is a serious complication of deep drill wounds.

Re-dressings.—After having removed the old dressing with forceps, proceed as indicated under the treatment of abrasions and lacerations.

Contusions.—In all cases of contusion, careful consideration must be given to the history of accident. How heavy was the object causing the contusion; a number of serious conditions can arise from a contusion. All cases of abdominal contusion should be referred to hospital, the Medical Officer or the patient's own doctor.

Minor contusions should be treated with lead and opium lotion. It must be remembered that the force of a contusion may be transmitted, causing injury at a point some distance from the place of contact. Examples: An employee may fall on his hand and sustain a fracture of the head of the radius at the elbow joint; an employee may fall and land on his feet and sustain a compression fracture of the body of a vertebra.

Strains.—No acute case should be treated as a strain until bone injury has been excluded by X-ray examination. All strains, except obvious conditions such as teno-synovitis or tendon ganglion or hernia, are therefore to be considered suspected fractures and dealt with accordingly.

Trigger Finger is a condition which is easy to recognise. It occurs most commonly in the thumb, but can occur in any finger of the hand. Upon bending the terminal portion, it catches and remains in a fully bent position, so that the patient is unable to straighten it. Occasionally, it is possible by exerting considerable pressure on the back of the finger to "snap" the terminal portion of the finger into normal position. Trigger finger results from excessive use; a state of chronic inflammation and swelling is set up in the tendon sheath which after a time causes it to become thickened. This fibrosis

contracts, forming a ring or band around the tendon. The situation of this ring is usually at the knuckle joint on the palmar surface.

Mallet Finger.—The cause of this deformity is evulsion of the tendon from the point at which it is fixed into the base of the terminal portion of the finger. It is usually due to forcible bending of the finger while the tendon is actively contracting, or less commonly to a sharp blow directly over the tendon insertion. All cases of mallet finger or trigger finger should be referred to the patient's own doctor.

Industrial Strain.—Hernia frequently results from lifting. It is usually accompanied immediately by burning pain in the groin, and the employee will usually refer to a "lump." All cases of suspected hernia should be referred to the Medical Officer or to the employee's own doctor. Hernia may also occur as a result of cumulative effort in those engaged in heavy work. The history obtained in these cases is usually that of an employee doing heavy work for a period of at least one year. Pre-employment examination records are valuable in these cases.

Back Injuries.—All back injuries accompanied by pain or loss of power should be looked upon as suspected fractures and referred to hospital.

Synovitis of the Wrist.—This is brought on by over-exertion and jarring of the wrist. The onset is usually accompanied by tenderness or pain on movement, together with swelling. A creaking sensation can be felt on movement when the affected part is examined with the fingers. The symptoms usually clear up after a short rest.

Fractures.—Gross displacement of bony fragments is obvious, but enquiry must always be made into the cause of injury and, if the circumstances of the accident are such that a fracture might be present, the patient should be referred for X-ray examination. Minimal treatment should be given to these cases, compatible with adequate fixation of the fracture so far as this is possible, and cases should be evacuated to hospital without delay, although shock must be guarded against by blankets and hot bottles.

Burns.—Burns may be classified as thermal, mechanical, or chemical. Life is always endangered by burns of the skin involving 25 per cent. or more of the body surface. The greater the area of skin of the body involved, the more profound is the shock.

Burns are usually classified into first, second, and third degrees.

First-degree burns, involving the superficial layers of the skin, and producing but little underlying swelling. White scales flake off after a few days.

Second-degree burns, causing loss of the superficial and deep layers of the skin; healing takes place without the formation of scar tissue. Blisters form, removal of which reveals a pale but not dead-white surface, over which the reddened pin-points of the deeper layers of the skin can be seen.

Third-degree burns, destroying the full thickness of the skin and the glands and hair follicles contained in it. The burn heals by scar-formation.

The skin may be burned brown, and there may be blisters on removal on which a dead-white floor is revealed, with none of the red pin-points already described. The nerve endings of the skin are destroyed and pain is thus absent here, but a third-degree burn is often surrounded by an area of second-degree burn, and freedom from pain is generally only partial.

Treatment.—It is extremely important to carry out strict aseptic treatment. Dressings should be removed with instruments.

The burned area should be cleaned with Cetavlon and dressed with a special burn cream; take care that the cream does not extend beyond the raw area. In no case should treatment with this cream be continued beyond seven days. Cases where more than 10 per cent. of the body is involved and the burns are second-degree or deeper must be sent to hospital. Carry out no local treatment in these cases except to cover the affected parts with sterile towels. Use no medicament.

If there is any doubt whatsoever about a patient, refer to hospital or the patient's own doctor. In those cases in which treatment has been given, if the progress is not entirely satisfactory, refer to own doctor or hospital.

Ophthalmic Conditions.—The attendant should wash the hands with soap and water before attending to a case.

In all cases of foreign body of the eye, exercise the utmost gentleness.

Use a small blunt eye-dropper for each patient, taking care it does not touch the surface of the eye and eyelid.

Do not point the eye-dropper directly in front of the eyeball. The patient may blink or jerk, thus involving the risk of injury to his eye. Instead, approach the eye from the outer side, holding the dropper horizontally with the rubber tip away from the patient. Tell the patient to look up and away from the dropper. Instil the solution into the corner of the eye.

Do not use large fluffy cotton applicators. The cotton fibres are apt to remain on the eyeball and set up an inflammation. Instead, use tightly wound cotton-wool on the end of a wooden probe. Moisten applicator in saline before using, and remove excess moisture by wiping on gauze.

The responsibility for very severe or difficult cases should not rest entirely upon the attendant; such cases should be referred to hospital.

Visual acuity must be checked when treatment ends in all cases not referred to hospital, but in which interference has been required for the removal of a foreign body or in which a blow has been received.

When the dropper touches the patient's eye or skin, it must be sterilised before using again.

Foreign Bodies.—When an employee presents himself, alleging that there is a foreign body in his eye, the following procedure is recommended:

First Day.—Examine eyeball and eyelid carefully with magnifying lenses. Follow a definite routine. Evert lower lid and examine. Examine eyeball, instructing employee to look up, down, to the right and to the left. Evert upper lid and examine. When foreign body is discovered, note its

situation, character and size. Decide whether the foreign body is loose or embedded. Note carefully if there is any abrasion of eyeball. The possibility of two or more foreign bodies being present should always be considered.

If foreign body is loose, remove with cotton applicator. Irrigate eye with sterile, normal saline followed by two Sulphacetamide solution drops, 30 per cent. Instruct employee to return immediately if he has any pain or discomfort in the eye. If so, refer to Medical Officer, hospital or employee's own doctor.

If the employee states that "something" hit his eye with great force, even if you are unable to see any foreign body, or "rust" stain or abrasion, refer to hospital. This is especially important, as it may mean that a foreign body has penetrated into the interior of the eyeball. Be sure to recognise a penetrating foreign body in every instance. The history of the injury is helpful in this respect. Intraocular foreign bodies are not apt to result from grinding or lathing operations, but more likely follow pounding or chiselling procedures. An intraocular foreign body should be suspected in any case in which the vision is moderately reduced; where the normal shape of the pupil is altered; or if a large amount of blood is to be seen in the eye.

Any case of embedded foreign body or injury to the eye is to be sent to hospital forthwith, or if there is any doubt whatsoever as to the nature of the condition.

Second Day.—If no inflammation is present, repeat the treatment with Sulphacetamide and ask the patient to return next day. If inflammation is present, refer to the patient's own doctor or to hospital.

Third Day.—If no inflammation is present, discharge the patient after treatment with Sulphacetamide. If inflammation is present, refer to patient's own doctor or to hospital.

Medical Conditions.—The First-aid Attendant should not attempt to treat sickness, and employees taken ill at work should be referred to their own general practitioners.

It must be emphasised that it is unwise to try to run even the simplest medical arrangements without the help of a doctor; if it is attempted, trouble is certain to arise sooner or later.

RECORDS

The importance of a good record-keeping system has been emphasised earlier. Although the extent to which it is required will vary with the scope of medical work undertaken, there are at least two kinds of records which are essential, namely those covering the treatment of sickness or accident and those dealing with absence due to the same causes.

As to the former, it is impossible to lay down hard-and-fast rules about the details to be recorded. Those which must not be omitted include: check number, name, date and time of illness or accident, date and time of treatment, destination of employee after treatment has been given and the signature or initial of the person who has attended to the case, whose responsibility also it is to record the appropriate information. A card-index system is the most efficient, as it will provide data enabling one to check the health not only of an individual but also that of the community. It is not always practicable, however, and a day-book may have to be used.

The recording of absence due to sickness or accident is often done as a part of the general time-keeping system, and in such cases the record of an individual worker, if available at all, seldom extends over any great length of time. It is not easy to keep an accurate check of sickness and accident, or, at any rate, to classify it without some special knowledge, and for this reason it should be undertaken by trained staff when possible. If trained people are not available, an intelligent clerk can usually be taught the common terms and methods of classification by a nurse or doctor, although technical help will no doubt be required from time to time to avoid difficulties. A card-index system for this purpose is essential, and the method suggested by the Industrial Health Research Board is recommended, not only because it provides sufficient information to enable an appraisal to be made of the extent and nature of sickness and accident causing the absence of individuals as well as the incidence of ill health in the community, but also because it is likely to become the standard method of recording absence for health reasons if one should be adopted in the future. A summary of the incidence and amount of lost time due to sickness and accident should be furnished to the management at stated intervals, usually on a monthly basis.

ACCOMMODATION AND EQUIPMENT

The accommodation and equipment required naturally depend mainly on the number of people employed. Certain minimum statutory requirements are laid down by the First Aid in Factories Order 1928 (S. R. & O. 1938, No. 486) made under Section 45 of the Factories Act 1937.

A. For factories in which the number of persons employed does not exceed ten, or (in the case of factories in which mechanical power is not used) does not exceed fifty persons. Each first-aid box or cupboard shall contain at least:

(1) A copy of the first-aid leaflet (Form 923) issued by the Factory Department of the Home Office. (*Now Ministry of Labour.*)

(2) A sufficient number (not less than six) of small sterilised dressings for injured fingers.

(3) A sufficient number (not less than three) of medium-sized sterilised dressings for injured hands or feet.

(4) A sufficient number (not less than three) of large sterilised dressings for other injured parts.

(5) A sufficient number of sterilised burn dressings (small and large).

(6) A 2 per cent. alcoholic solution of iodine or a 1 per cent. aqueous solution of gentian violet.

(7) A bottle of sal volatile, having the dose and mode of administration indicated on the label.

B. For factories in which mechanical power is used and in which the number of persons employed exceeds ten but does not exceed fifty. Each first-aid box or cupboard shall contain at least:

(1) A copy of the first-aid leaflet (Form 923) issued by the Factory Department of the Home Office. (*Now Ministry of Labour.*)

(2) A sufficient number (not less than a dozen) of small sterilised dressings for injured fingers.

(3) A sufficient number (not less than six) of medium-size sterilised dressings for injured hands or feet.

(4) A sufficient number (not less than six) of large sterilised dressings for other injured parts.

(5) A sufficient number of sterilised burn dressings (small and large).

(6) A sufficient supply of sterilised cotton-wool in $\frac{1}{2}$ -oz. packets.

(7) A 2 per cent. alcoholic solution of iodine or a 1 per cent. aqueous solution of gentian violet.

(8) A bottle of sal volatile, having the dose and mode of administration indicated on the label.

(9) Eye-drops, prepared as described in the first-aid leaflet (Form 923).

C. For factories employing more than fifty persons. Each first-aid box or cupboard shall contain at least:

(1) A copy of the first-aid leaflet (Form 923) issued by the Factory Department of the Home Office. (*Now Ministry of Labour.*)

(2) A sufficient number (not less than two dozen) of small sterilised dressings for injured fingers.

(3) A sufficient number (not less than one dozen) of medium-size sterilised dressings for injured hands or feet.

(4) A sufficient number (not less than one dozen) of medium-size sterilised dressings for other injured parts.

(5) A sufficient number of sterilised burn dressings (small and large).

(6) A sufficient supply of sterilised cotton-wool in $\frac{1}{2}$ -oz. packets.

(7) A 2 per cent. alcoholic solution of iodine or a 1 per cent. aqueous solution of gentian violet.

(8) A bottle of sal volatile, having the dose and mode of administration indicated on the label.

(9) Eye-drops, prepared as described in the first-aid leaflet (Form 923).

(10) A supply of suitable splints and cotton-wool or other material for padding.

(11) A supply of adhesive plaster.

(12) A tourniquet.

(13) One dozen roller bandages.

(14) Half a dozen triangular bandages.

(15) Safety-pins.

Provided that items (10) to (15) inclusive need not be included in the standard first-aid box or cupboards:

(a) where there is a properly equipped ambulance room, or

(b) if at least one box containing such items and placed and maintained in accordance with the requirements of Section 45 of the said Act is separately provided.

In lieu of the dressings required under items (2) and (3) there may be substituted

adhesive wound-dressings approved by certificate of the Chief Inspector of Factories.

In all cases, all materials for dressings contained in the first-aid boxes or cupboards shall be those designated in, and of a grade or quality not lower than the standards prescribed by, the British Pharmaceutical Codex, or any supplement thereto.

Each first-aid box or cupboard shall be distinctively marked. If newly provided after the 5th of May, 1938, it shall be marked plainly "FIRST AID."

Two points in the text of the Factories Act (Section 45) relating to the care and use of these first-aid boxes should be stressed, viz. :

(a) Nothing except appliances or requisites for first aid shall be kept in a first-aid box or cupboard.

(b) Each first-aid box or cupboard shall be placed under the charge of a responsible person who shall, in the case of a factory where more than fifty persons are employed, be trained in first-aid treatment, and the person in charge shall always be readily available during working hours. A notice shall be affixed in every work-room stating the name of the person in charge of the first-aid box or cupboard provided in respect of that room.

It will be seen that there are no special requirements about the size or construction of the box or cupboard except that it has to be marked "FIRST AID," but suitable containers for equipment can easily be made or obtained from one of the firms specialising in the supply of dressings and equipment to industry. In the heavier industries where more serious casualties are likely to occur, a special container capable of holding a stretcher as well as dressings and other equipment is to be recommended (Fig. 13).

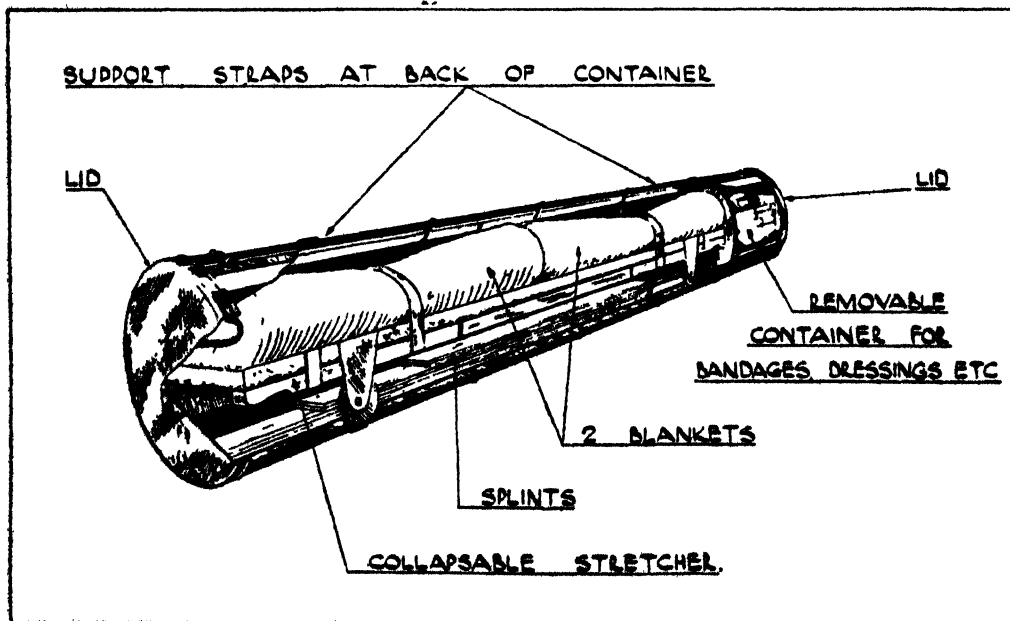


FIG. 13.

The statutory equipment which is required can well be supplemented, and a suggested schedule is given below :

List of Additional Equipment

Blankets	2
Sterile Wool Swabs	12
Sterile Lint Dressings	12
Scissors, pairs	1
Thomas Splint	1
Forceps, Dissecting, pairs	2
Hot-water Bottles	2
Thermometer, Clinical	2
Eye-wash Bottle	1
Pulsometer	1
Kidney Dishes	2

In the smaller concern, reliance as a rule has to be placed on what can be done by the first-aid attendant with the facilities provided by the first-aid box. Nevertheless, it will be generally agreed that it is not satisfactory to give treatment, even of a simple nature, unless it is possible for the attendant, whose hands frequently become soiled in the course of other work, first to wash his hands. For this reason it is desirable that a sink or basin with hot and cold running water should be fitted conveniently close at hand to each first-aid box.

An ambulance room, staffed on a full-time basis, is, of course, the best solution to the problem, and many progressive firms have made such provisions, but in certain hazardous industries they are required thus :

<i>Industry</i>	<i>Date of Order</i>	<i>Authority</i>
Blast Furnaces	12th October, 1917	S. R. & O. 1917, No. 1067, under Section 7 of the Police, Factories, etc. (Miscellaneous Provisions) Act 1916
Copper Mills	12th October, 1917	S. R. & O. 1917, No. 1067, under Section 7 of the Police, Factories, etc. (Miscellaneous Provisions) Act 1916
Iron Mills	12th October, 1917	S. R. & O. 1917, No. 1067, under Section 7 of the Police, Factories, etc. (Miscellaneous Provisions) Act 1916
Foundries	12th October, 1917	S. R. & O. 1917, No. 1067, under Section 7 of the Police, Factories, etc. (Miscellaneous Provisions) Act 1916
Metal Works	12th October, 1917	S. R. & O. 1917, No. 1067, under Section 7 of the Police, Factories, etc. (Miscellaneous Provisions) Act 1916

Saw Mills	8th November, 1918	S. R. & O. 1918, No. 1489, under Section 7 of the Police, Factories, etc. (Miscellaneous Provisions) Act 1916
Chemical Works	14th July, 1922	S. R. & O. 1922, No. 731, under Section 79 of the Factory and Workshop Act 1901
Oil Cake Manufacture	5th July, 1929	S. R. & O. 1929, No. 534, under Section 7 of the Police, Factories, etc. (Miscellaneous Provisions) Act 1916
Ship Building	24th February, 1931	S. R. & O. 1931, No. 133, under Section 79 of the Factory and Workshop Act 1901
Coal Mining	14th June, 1937	Coal Mines First Aid Amending Regulations (1937, No. 548) under Coal Mines Act 1911, Sections 85 and 86
Clay Works (Welfare)	2nd July, 1948	Special Regulations, 1948, No. 1547, made by the M. of L. and N. S., under Section 46 of the Factories Act 1937

S. R. & O. 1917, No. 1067, dated 12th October, 1917, dealing with the Ambulance and First-Aid Arrangements required in most of the industries indicated, is given below, and Orders requiring like arrangements in other industries are couched in similar terms.

. . . In pursuance of Section 7 of the Police, Factories, etc (Miscellaneous Provisions) Act 1916, I hereby make the following Order, and direct that it shall apply to all factories in the following classes:

**Blast Furnaces
Copper Mills**

**Foundries
Metal Works**

Iron Mills

FIRST AID

NOTE.—In view of the provisions as to First Aid contained in Section 29 (1) of the Workmen's Compensation Act 1923, the requirements contained in paragraphs 1 to 4 of this Order were revoked by Order dated 24th August, 1925.

AMBULANCE ROOM

1. In every factory to which this Order applies and in which the total number of persons employed is 500 or more, the occupier shall provide and maintain in good order an Ambulance Room.

2. The Ambulance Room shall be a separate room used only for the purpose of treatment and rest. It shall have a floor space of not less than 100 square feet, and smooth, hard and impervious walls and floor, and shall be provided with ample means of natural and artificial lighting. It shall contain at least:

- (i) A glazed sink with hot and cold water always available.
- (ii) A table with a smooth top.
- (iii) Means for sterilising instruments.
- (iv) A supply of suitable dressings, bandages and splints.
- (v) A couch.
- (vi) A stretcher.

3. Where persons of both sexes are employed, arrangements shall be made at the Ambulance Room for their separate treatment.

4. The Ambulance Room shall be placed under the charge of a qualified nurse, or other person, trained in First Aid, who shall keep a record of all cases of accident and sickness treated at the room.

AMBULANCE CARRIAGE

5. At every factory to which this Order applies and in which the total number of persons employed is 500 or more, the occupier shall, for the purpose of the removal of serious cases of accident or sickness, provide on the premises and maintain in good condition a suitably constructed ambulance carriage, unless he has made arrangements for obtaining such a carriage when required from a hospital or other place in telephonic communication with the factory.

6. This Order shall come into force on the 1st December, 1917.

In factories where arrangements are such that immediate treatment of all injuries can be undertaken, the Chief Inspector of Factories has power to grant exemption from the requirement to provide first-aid boxes in the workshops. In such cases it is in fact the usual practice to make application for exemption, and there is much to recommend it, as by this means all casualties can be expected to receive more satisfactory treatment than is possible to be given in the shop.

The minimum size of an ambulance room required under the various orders is one hundred square feet, but it need hardly be said that such a room is quite inadequate to serve as the focus for the health of the factory community. The very name "ambulance room" incidentally gives a poor impression and "surgery" is little better. "Industrial Health Unit," though more descriptive of the kind of activity for which the building is used, is cumbersome; perhaps "clinic" expresses a broader conception of industrial medical work.

The accommodation should consist of a "treatment" room proper, the size of which will depend on the number of cases likely to be treated but which should be not less than ten feet by seventeen feet. In addition there should be a private room for the nurse and a rest-room, although in the absence of the last-mentioned the nurse's room can be used for both purposes. A waiting-room is an advantage, as it enables the same treatment room to be used for men and women. The appropriate order lays down only that arrangements *shall be available* so that men and women may be treated separately. Much depends on the volume of work; if large numbers of both sexes are being dealt with separate treatment rooms will be needed.

The unit should be centrally situated so as to be readily accessible to all parts of the works (except in the case of a very large factory when several units may be needed) and on the ground floor, in order to enable stretcher cases to be admitted without difficulty. The possibility of expansion should also be borne in mind in choosing a site. Plans of clinics which have proved successful in practice are shown on the following pages (Figs. 14, 15, 16 and 17).

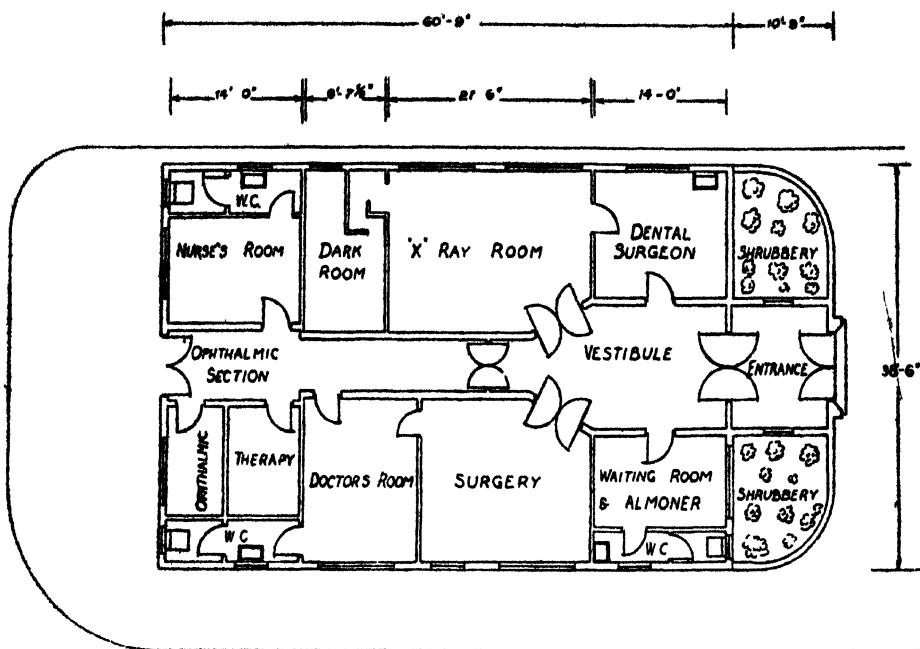


FIG. 14

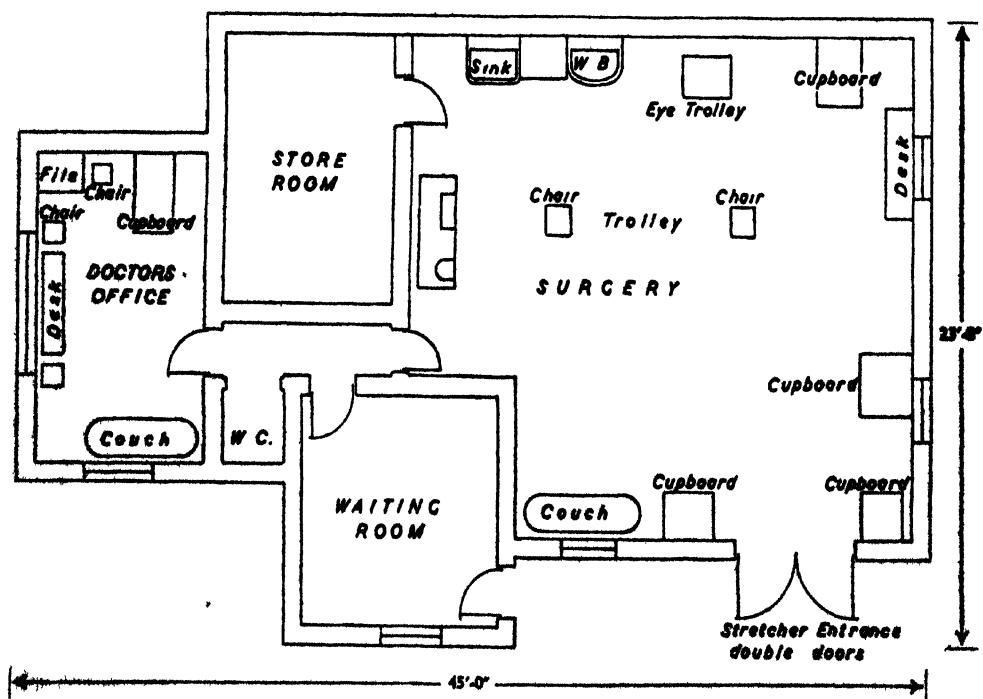


FIG. 15

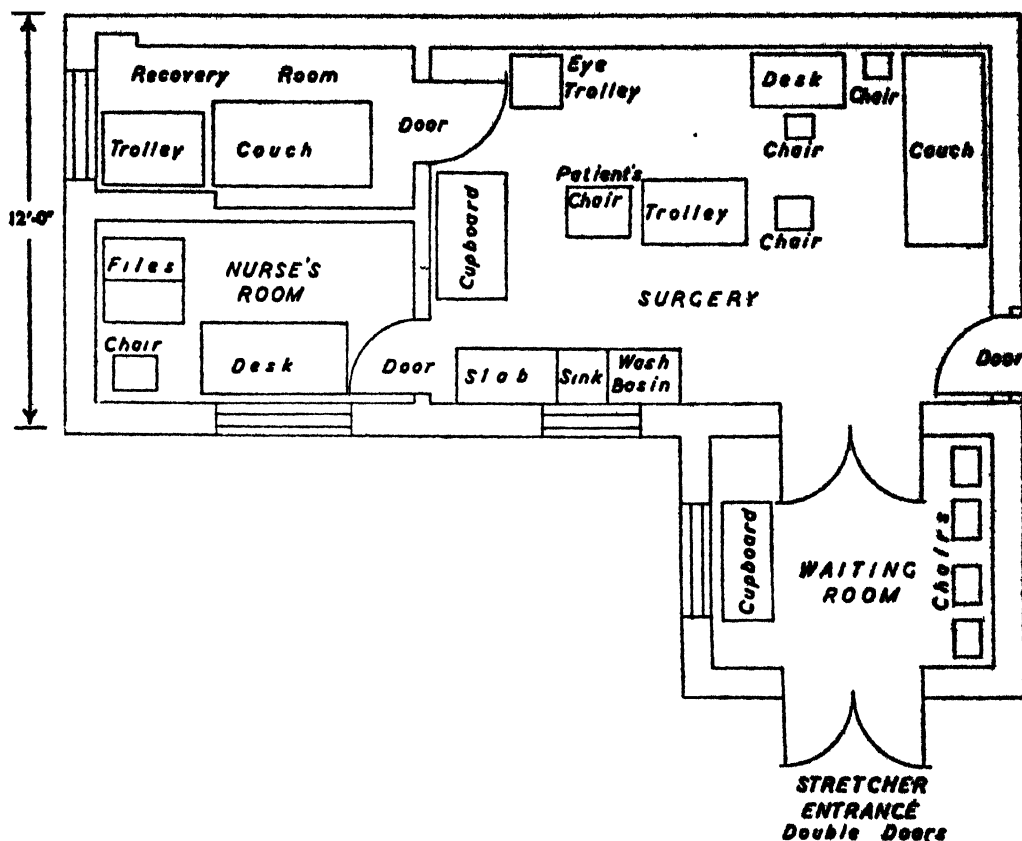


FIG. 16

The equipment prescribed is, of course, minimal, and it is obvious that in order to enable the full benefit to be obtained from the establishment of a clinic in the works more is required. The schedule of furniture, fittings and instruments, etc., on page 269 has been found by experience to meet the case, and to permit of work being done in the ambulance room differing but little from that carried out in the Casualty Department of a hospital.

A Schedule of expendable material is also given, the quantities being those found necessary for a heavy Engineering Works employing 700 workers. Certain practical points in connection with store-keeping are worth remembering—for example, it is unwise to keep more than a month's supply of material in stock, for much of it tends to deteriorate if stored too long. It is difficult sometimes to judge the amount required and it is therefore an advantage to deal with a supplier close at hand who can supply at short notice in an emergency. It should also be noted that some of the items given in the schedule can only be obtained on a doctor's prescription.

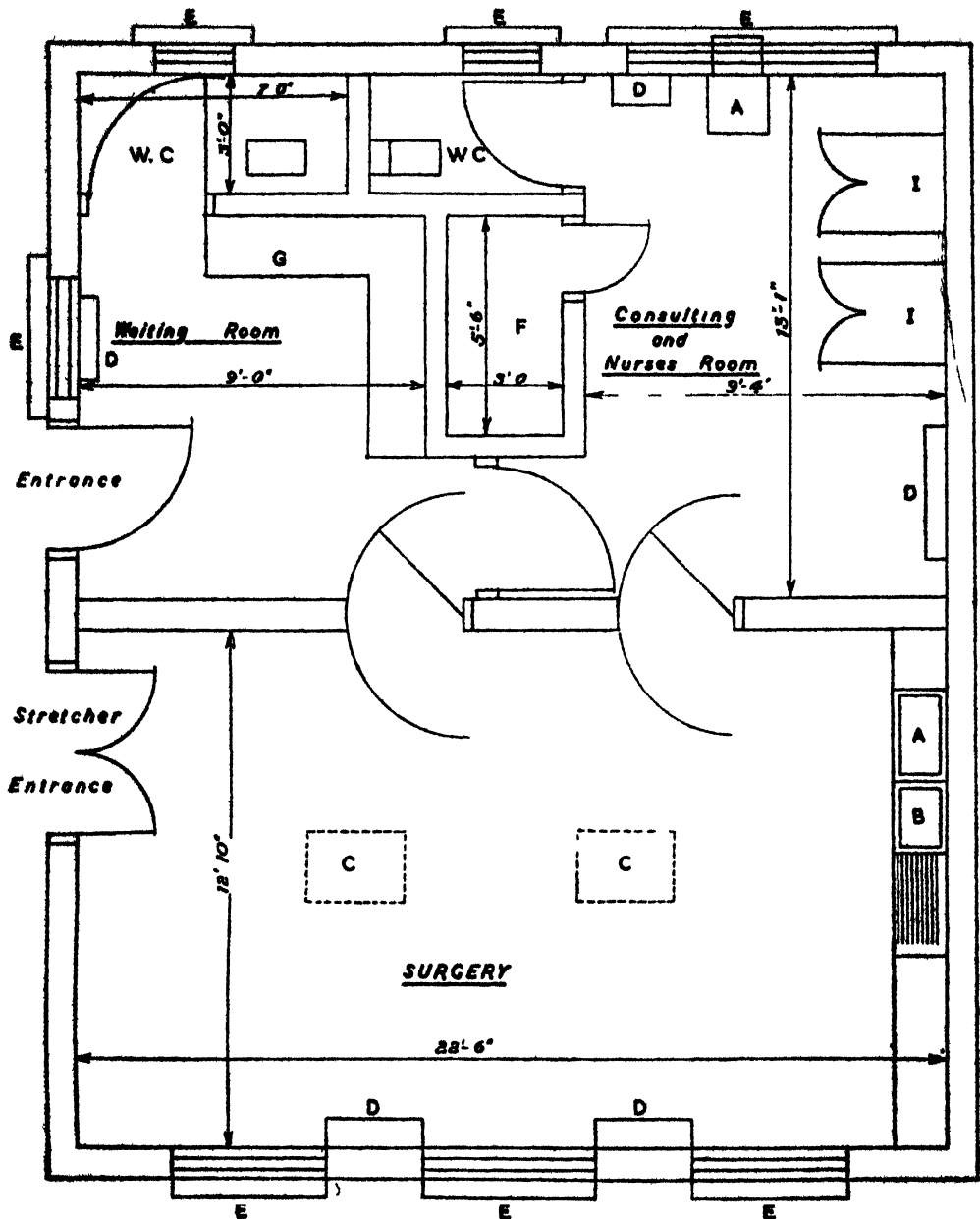


FIG. 17.

A = Wash Basins.
 B = Sink.
 C = Trolley.
 D = Radiator.

E = Window.
 F = Store Room.
 G = Fitted Bench.
 I = Fitted Cupboard.

Experience has shown that the table below gives a good indication of the staff required for a Works Clinic:

Clinic Staff Requirement, One Shift			All-service Plus Progress in <i>Safety, Hygiene, Research, Prevention, Co-operation, etc.</i>
Staff	Direct Service Only	Direct Plus Indirect Service	
	No. of Workers	No. of Workers	No. of Workers
One nurse	768	672	600
Two nurses	1,536	1,344	1,200
Two nurses and one clerk ¹ .	2,304	2,016	1,800

Each 8 hours of active clinic practice consists of (70%) . . . 5.6 hours
 direct attention to injured or ill employees, and (30%) . . . 2.4 hours
 of necessary clerical recording
8 hours

LIST OF EQUIPMENT REQUIRED IN A WORKS SURGERY

Article	Quantity	Article	Quantity
Auriscopes (electric)	1	Cabinet, filing, four-drawer	1
Autoclave (electric or steam, whichever form of power is available in the surgery)	1	Carbon-dioxide resuscitator	1
Bed-pan with lid	1	Cataract needle	1
Bin with foot-pedal, for soiled dressings	1	Chair, examination, with head rest	1
Binocular loupe	1	Chairs, ordinary	6
Blades, Bard Parker or Swan Morton, packets	1	Couch, examination	1
Blankets	4	Cupboard with lock, for drugs	1
Blotting-pad	1	Cupboard with lock, for poisons	1
Boiling-ring (electric or gas)	1	Cupboard, for stock	1
Bowls (assorted sizes)	6	Cupboard, for uniform	1
Box, filing, 6 in. by 4 in.	1	Desk	1
Box, filing, 8 in. by 5 in.	1	Drums, dressings, to fit autoclave	2
Box (glass) with lid, 8 in. by 6 in. by 2 in.	1	Dusters	3
Box (glass) with lid, 6 in. by 3 in. by 2 in.	1	Eye chart, distant vision	1
Brushes, eye	2	Eye chart, near vision	1
Bucket (white enamel)	1	Feeding-cup with spout	1
		Footstool	1
		Forceps, artery, pairs	2
		Forceps, aural, pairs	1
		Forceps, bowl, pairs	1

¹ Two nurses can take care of 1,200 employees and do the required clerical work, but when the 1,800-employees mark is reached, there will be a daily clerical requirement of 7.2 hours. At this point a full-time clerk is added to release the two nurses for professional duties to sick and injured only. As the number of employees rises, the clinic staff is increased by this same cycle.

Forceps, Cheatle, pairs	1	Scissors, dressings, assorted sizes, pairs	4
Forceps, dissecting, plain 7-in., pairs	4	Screen, folding	1
Forceps, dissecting, toothed 7-in., pairs	2	Sink, with tiled slab	1
Forceps, mosquito, pairs,	1	Slides (glass)	6
Forceps, sinus, pairs	1	Splints, sets	2
Funnel (glass or enamel), pairs	1	Steriliser (electric or steam) 19 in. by 10 in. by 9 in., interior size	1
Galley pots (enamel)	2	Stethoscope	1
Handle, Bara Parker or Swan Morton	1	Stretcher, Furley type, to fit local ambulance	3
Height-measuring standard	1	Syringe, ear	1
Hot-water bottles (rubber)	3	Syringe, hypodermic, 1 c.c.	1
Inkstand with two bottles	1	Syringe, hypodermic, 5 c.c.	1
Jar, dressings, with lid 1-lb. size	1	Syringe, hypodermic, 10 c.c.	1
Jug, enamel, 1 pint	1	Telephone, house	1
Jug, enamel, 2 pint	1	Telephone, national	1
Kettle (electric)	1	Thermometer, lotion	1
Lamp, Anglepoise	1	Thermometer, wall	1
Lavatory basin, hospital type	1	Thermometers, clinical, ½-min. mag.	3
Medicine glass	2	Tourniquet, St. John	1
Mirror, 10 in. by 8 in. by ¼ in. approx.	1	Towel-rail	1
Nail-brush	1	Towels, hand, huckaback	6
Needle-holder	1	Towels, hand, turkish	6
Oiled silk, square yds.	2	Towels, tea	4
Ointment spatula	1	Trays, dressing	1
Penholders	3	Trays, kidney-shaped, assorted sizes	4
Petri dish	1	Trolleys, dressing	2
Pillow cases	6	Ultra-violet ray lamp	1
Probe (silver)	1	Ultra-violet ray goggles, pairs	6
Pulsometer	1	Undines	2
Q-ray pad	1	Urine analysis set	1
Rods (glass)	6	Urine bottle	1
Safety razor	1	Wastepaper basket	1
Saucepan (enamel), small	1		
Scales (to weight 20 st. by 1 lb.)	1		

(Stainless steel should be stipulated for all surgical instruments unless otherwise stated.)

DRESSINGS, DRUGS, ETC.

Article	Quantity	Article	Quantity
Acetic acid dil.	2 oz.	Adhesive strapping, 3-in. wide	2 spools
Acramine cream (non-greasy base)	½ lb.	Adrenalin ampoules, 0.5 c.c.	12
Adhesive strapping, ½-in. wide	3 spools	Applicators (wooden)	1 box
Adhesive strapping, 1-in. wide	3 "	Anti-tetanus serum, 3,000 units	3 ampoules
		Argyrol solution 10 per cent.	2 fl. dr.
		Aspirin tablets	250

Atropin eye drops, 0.5 per cent.	2 fl. dr.	Glycerin of Ichthyl	½ lb.
Bandages, 1-in. W.O.W.	1 gross	Grey wool	2 lb.
Bandages, 2-in. W.O.W.	1 "	Industrial spirit	1 pt.
Bandages, 3-in. W.O.W.	½ "	Jelonet	1 box
Bandages, Gypsona, 2-in.	2 only	Kaolin poultice	1 lb.
Bandages, Gypsona, 3-in.	2 "	Leather finger-stalls	1 doz.
Bandages, crepe, 3-in.	2 "	Lead and opium lotion	2 lb.
Bandages, triangular	1 doz.	Lead lotion (evaporating)	1 lb.
Benzole Benzoate (applicatio)	1 lb.	Lint, white	2 lb.
Bicarbonate of soda	1 lb.	Liquid Paraffin	2 oz.
Bismuth and soda mixture,	2 lb.	Litmus paper, blue	1 book
B. P. C.		Litmus paper, red	1 "
Calamine lotion	1 lb.	Mag. sulph. paste	½ lb.
Calamine lotion (oily solution)	1 lb.	Mandl's paint	2 oz.
Cetavlon (I.C.I.), powder	2 oz.	Methylated Ether	1 lb.
Compound Glycerin of		Needles, Hypodermic, 1 c.c.	6
Thymol	1 lb.	Needles, Serum	3
Cocainæ Lamellæ, gr. 1/50	1 tube	Needles, Suture (Asst.)	1 doz.
Cocainæ Lamellæ, gr. 1/20	1 "	Nylon or S.W.G. Sutures	50
Compound chalk mixture	1 "	Olive Oil	1 lb.
Compound Codein tablets	100	Omnopon ampoules, ½ gr.	6
Compound Ipecacuanha mix-		Oxygen cylinder	1
ture, B. P. C.	2 lb.	Packed dressings	1 doz.
Cotton-wool (B.P.C.)	6 lb.	Paper eye-shades	1 doz.
Dexyl or Dettol	1 Win. qt.	Parsetic	1 bottle
Diaphoretic mixture	2 lb.	Penicillin cream	25 gm.
Elastoplast, bandaging, 1-in.	½ doz.	Penicillin eye-drops	12 c.c.
Elastoplast, bandaging, 3-in.	½ "	Peroxide of Hydrogen, 10 vols.	4 oz.
Endrine	1 bottle	Razor blades	3
Essence of ginger or of		Safety-pins	1 doz.
peppermint	1 oz.	Silver nitrate stick	1
Eusol lotion or Milton	1 lb.	Solution tablets of Proflavine	100
Fehling's solution No. 1	2 oz.	Solution tablets of Chloride	
Fehling's solution No. 2	2 "	of Soda, gr. 80	100
Fluorescine solution, 2 per		Sulphacetamide solution, 25	
cent.	1 "	per cent. W/V	3 bottles
Formalin throat tablets	100	Sulphathiazole powder	25 gm.
Gauze, white	3 by 3 yds.	Sulphonet	1 tin
Gauze, ribbon, ½-in. wide	1 roll	Tongue depressors (wooden)	100
Gentian violet solution, 1 per		Vaseline	½ lb.
cent.	4 oz.	White oils	½ lb.
Glasgow cream	½ lb.	Witness tubes	1 doz.
Glycerin	2 oz.		

(Some of the items listed above can only be obtained on a doctor's prescription.)

If exemption is granted from the requirements to provide first-aid boxes in the workshops, the nurse should be prepared to attend to serious cases of illness or accident which may require immediate treatment at the site of

accident. She should be equipped with an emergency satchel suitably packed and ready for use if the need arises.

The method of removal of the injured person will depend to some extent upon where the accident has taken place. In the average factory the standard Furley stretcher can generally be used, and it should either form part of the emergency equipment of the ambulance room or be kept in the special metal cylinders to which reference has been made earlier. A wheeled stretcher can often be taken almost, if not quite, to the site of an accident, although one or other of the special stretchers such as the Neil-Robertson may be needed in a quarry or in a coal-mine (Fig. 18).

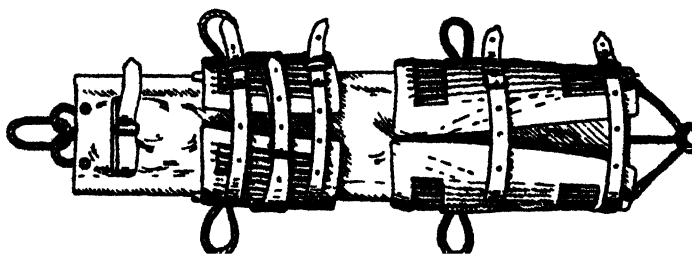


FIG. 18.

The organisation of first-aid parties should be undertaken in every works so that the removal of casualties may be dealt with efficiently.

Although arrangements for the provision of an "Ambulance Carriage" are only obligatory in a relatively small number of factories in which the work carried on is of a specially hazardous nature, nevertheless it is wise for those in charge of all industrial establishments to make sure that an ambulance is readily available in an emergency. It is usually easy to make suitable arrangements locally, but if difficulty should arise, help may often be obtained from the St. John Ambulance Brigade Handbook—*Home Ambulance Service Register of Ambulance Stations* (1946). Special arrangements are required in the case of the coal-mining industry.

... "The owner of every mine shall make such arrangements as will provide an effective motor-ambulance service which shall be used whenever necessary for the transport of sick and injured workers to hospital or to their homes. The service shall be so organised that a sufficient number of motor ambulances kept at all times in constant readiness and with a driver readily available shall be stationed at a base not more than ten miles by road from the mine and, if the total number of persons employed underground exceeds ten, in telephonic communication with the mine. If any question arises whether the number of motor ambulances stationed at any base is sufficient, that question shall be decided by the Minister of Fuel and Power, but if the owner disputes the reasonableness of the decision the matter shall be settled in the manner provided by the Act for settling disputes. Provided that, in respect of mines where it is not reasonably practicable for the owner to comply with these requirements, the Inspector of the Division may sanction arrangements for the use of a motor ambulance

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stationed more than ten miles by road from the mine, and for summoning it otherwise than by telephone, or he may sanction such other not less effective arrangements as the owner may be able to make in the circumstances."

The importance of keeping in close touch with outside medical authorities, including the employee's own doctor, has already been mentioned and, indeed, the British Medical Association Code of Ethical Rules for Industrial Medical Officers includes a model letter to be sent to the private practitioner in cases in which treatment has been given in the factory to one of his patients (*see page 245*). Some discretion must, however, be used in the interpretation of the ethical rule which lays down that continuing as opposed to primary treatment must only be given "in consultation with the worker's own practitioner." On the one hand, the general practitioner will not thank the works medical service if he is asked to deal with every triviality. On the other, he will not be too pleased if he has to accept responsibility for a case in which progress has not been satisfactory, which has been dealt with previously by somebody else. When a Medical Department is about to be inaugurated, the local doctors should be informed of the plan and an *ad hoc* agreement about such matters come to with them, as indicated under Ethical Rule V of the British Medical Association Code.

Sometimes it will be necessary to send an employee direct to hospital, and in such cases a report should be sent to hospital, and to the patient's own doctor. Standardised pro-formas are useful for this purpose and save time.

Specimen forms are given below :

Form of Letter to be given to Patient sent to Hospital

To: (Name of Hospital)

Date.....

(Name of Patient) M

Attended at the Works Surgery today, suffering from

(Insert nature of injury)

He was dealt with in the undermentioned way, and is referred to you for further advice and/or treatment.

(Nature of primary treatment carried out)

.....
.....

Signed.....

Medical Officer.

Nurse-in-Charge.

Industrial First-aid Attendant.

To: Dr.....

(Name of Patient) M.....

(Insert nature of injury)

Signed.....

Nurse-in-Charge.

To: Dr.....

(Name of Patient) M.

was brought to the } Works Surgery today, suffering from
attended at the

(Nature of Injuries)

He received the undermentioned primary attention }
He received no primary attention } and is referred to you,

for advice and/or treatment.

Signed.....

Nurse-in-Charge.

Something has been said earlier about the placement of the new entrants to industry, and it has already been stated that the medical examination should be completed if possible before placement, for on its result must hang to a considerable extent the decision as to the work for which the person is best

fitted. The usual procedure is for the candidate for employment to receive a preliminary interview through the normal channels for the engagement of labour and, if possible, the medical examination should follow immediately after it so that a report from the doctor may be obtained before a final decision about placement is made. Often this is not practicable and in such cases a provisional decision has to be come to about the engagement, of course subject to the result of the medical examination when this has been done. A pro-forma is given to the new entrant and this indicates to him the place and time at which he is to present himself for examination, as well as serving as an introduction to the doctor. The reception of the newcomer by the doctor is important, and the attitude of the former towards work and management is largely conditioned by it. For the period of time during which the examination lasts, that person is the doctor's patient, and the relationship to be established is that of doctor and patient. If defects are found, let there be a frank discussion of them and the restrictions, if any, which they impose. If no suitable work is available in view of these, let the position be explained and, if necessary, let a letter be sent to the patient's doctor indicating the nature of the defects which have been discovered. Above all, let it be made clear that the information gained will be treated as a confidence between patient and doctor. If that is done, no difficulties need be feared and all that is required from the doctor to management is a simple pro-forma as indicated below :

MEDICAL DEPARTMENT

THIS IS TO CERTIFY THAT I have today examined

M..... Age years.

of

and find h.... fit for employment.

Signed.....

Medical Officer.

Date.....

The examination should be complete, for unless this is the case, defects which may have an important bearing on the fitness of candidates for certain work may be missed. Just as important, and, indeed, forming a part of the medical examination, is enquiry into family and personal history, as well as a review of previous occupations undertaken by the applicant. The last-mentioned, an intelligence test, and a careful interview based on a suitable questionnaire carried out by a trained person will enable a fair opinion to be formed of the candidate's personality, and his stability or otherwise. It is not, of course, suggested that such an extensive enquiry is needed in all cases, but it is certainly of great help in the selection of jobs for young persons and

also in selecting people for certain occupations which make heavy demands on those engaged in them. Aptitude tests are of little value unless they are in effect replicas of the kind of work for which the person is being tested, but it is, of course, possible to discriminate between the clumsy and the dexterous.

Valuable information about the previous medical history of the young person is often in the hands of the Education Authority, but these records are confidential documents and are not available to the Industrial Medical Officer unless he also happens to be the Appointed Factory Doctor for the certification of the fitness of young persons. All young persons under eighteen years of age have to be examined by the Appointed Factory Doctor within fourteen days after having been taken into employment and must be certified by him as fit for the work they are asked to perform.

The general rules under which the Appointed Factory Doctor carries out his duties are contained in The Young Persons (Certificates of Fitness) Rules 1948, Date Sept. 22, 1948 (S. R. & O. 1948, No. 2162), an extract of which is given here:

4. (1) Not later than seven days after taking a young person into an employment in respect of which a certificate of fitness will be required if the employment continues for more than fourteen days the employer shall, unless he intends that such employment shall not continue beyond fourteen days, send notice thereof in writing to the Appointed Factory Doctor. (2) The employer shall also notify the Appointed Factory Doctor in writing when he desires any re-examination of a young person for the purpose of compliance with a condition attached to a certificate of fitness or with a view to the issue of a further certificate.

5. Except where otherwise authorised or directed by the inspector for the district in writing, every examination to which these rules relate shall

(a) if the young person is employed at a factory within the meaning of section 151 of the principal Act or at premises to which subsection (1) of section 103 or section 104 of that Act applies, be conducted at that factory or at those premises as the case may be, or, if not more than three young persons are employed thereat, at a place approved by the Chief Inspector for the purpose; and

(b) if the young person is employed elsewhere, be conducted at a place approved by the Chief Inspector for the purpose.

6. For the purpose of examinations conducted at a factory or at premises to which subsection (1) of section 103 or section 104 of the principal Act applies the occupier shall provide for the exclusive use of the Appointed Factory Doctor on the occasion of an examination a room properly cleaned and adequately warmed and lighted and furnished with a screen, a table with writing materials and chairs.

7. The employer shall afford to the Appointed Factory Doctor adequate facilities for inspecting any process, operation or work in which a young person requiring to be examined or re-examined by him is or is intended to be employed.

8. (1) In relation to the extended powers to issue a certificate of fitness which are conferred on an Appointed Factory Doctor by subsection (3) of section 1 of the Factories Act 1948, the Minister hereby directs that the employments set out in Group A and Group B shall be treated respectively as belonging to the same group—that is to say:

Group A (Ships)—Employment in yards or dry docks in the construction, reconstruction, repair, refitting, finishing or breaking up of ships or vessels; and employments in any of the processes or work mentioned in subsection (2) of section 105 of the principal

Act (which relates to the loading, unloading and coaling of ships) or in section 106 of that Act as amended by subsection (3) of section 14 of the Factories Act 1948 (which relates to certain work on ships in a harbour or wet dock).

Group B (Building and Civil Engineering)—Employment in building operations or in work of engineering construction.

(2) A certificate of fitness in respect of employments belonging to Group A (Ships) shall be restricted to employments under the same employer.

9. (1) In the case of each young person who is to be examined by the Appointed Factory Doctor there shall be entered on a record card (which shall be retained by the said doctor for such period as the Minister may direct) the following particulars:

- (a) the name and address of the employer of the young person at the time of the examination;
- (b) the name, address and date of birth of the young person; and
- (c) the page of the general register and the number of the entry containing the prescribed particulars as to that young person.

(2) The said record card shall be in such form as the Minister may direct and the said particulars shall be entered thereon by the employer if the examination is conducted at the place of employment of the young person, but in any other case the said particulars as given in the said register shall be entered by the doctor.

10. The Appointed Factory Doctor shall issue his certificate and indicate his decisions by entries in the general register; and where in accordance with Rule 5 of these rules an examination is conducted elsewhere than at the place of employment of the young person concerned, the employer of the young person shall make arrangements for the register to be taken, for the use of the Doctor, to the place where the examination is to be conducted, and to be returned as soon as practicable to the place where the register is normally to be kept:

Provided that where the Doctor issues a certificate in respect of:

- (a) employment at more than one factory in the occupation of the same occupier; or
- (b) employments which are treated by virtue of Rule 8 hereof as belonging to the same group

the certificate shall be in the form indicated in the Schedule to these rules and shall be attached to the general register in which particulars of the young person are required to be entered under section 116 of the principal Act, and there shall be entered in such register, in accordance with directions given therein, the reference number and date of the certificate, and the name and address of the Doctor who issued it.

The Appointed Factory Doctor may refuse a certificate or issue one subject to conditions regarding the nature of the work on which the young person is to be employed, or he may issue a provisional certificate which is valid for not longer than twenty-one days if he requires further information or time for consideration before deciding whether or not to certify the young person as fit; conditions imposed by the examining surgeon lapse after the young person has reached the age of eighteen. All young persons up to the age of eighteen years are now required to be examined at yearly intervals by the Appointed Factory Doctor.

It is not permissible to employ young persons on night work, unless they are over sixteen years of age, when they may be so employed in certain industries and processes, namely:

The smelting of iron ore:

The manufacture of wrought iron, steel or tin plate;

Processes in which reverberatory or regenerative furnaces, necessarily kept in operation day and night in order to avoid waste of material and fuel, are used in connection with the smelting of ores, metal rolling, forges, or the manufacture of metal tubes or rods, or in connection with such other classes of work as may be specified by regulations of the Secretary of State;

The galvanising of sheet metal or wire (except the pickling process);

The manufacture of paper;

The manufacture of glass.

Such workers are required to submit to examination by the Appointed Factory Doctor as in the terms of the following order :

The Night Work of Male Young Persons (Medical Examinations) Regulations 1938. Date June 24, 1938. (S. R. & O. 1938, No. 608.)

In pursuance of the powers conferred upon me by subsection (4) of Section 81 of the Factories Act 1937, and of all other powers enabling me in that behalf, I hereby make the following regulations.

1. A young person who is taken into employment in accordance with subsections (1) to (3) of Section 81 of the said Act in any factory shall not continue to be so employed after the expiration of fourteen days unless he has, in accordance with these regulations, been examined by the Appointed Factory Doctor and certified by him to be fit for such employment.

2. Every such young person shall, if he continues to be so employed, be re-examined by the Appointed Factory Doctor once before the expiration of the first three months of that employment and again before the expiration of each period of six months after the first three months; and he shall not continue to be so employed after the expiration of fourteen days from the date of such re-examination, unless the Appointed Factory Doctor has again certified him to be fit for such employment.

3. There shall be kept in the factory a register in a form prescribed by Order of the Secretary of State, in which there shall be entered by or on behalf of the occupier of the factory particulars as to every young person taken into such employment as aforesaid, including the date of his birth, and the dates on which he commences and ceases to be so employed, and in which the Appointed Factory Doctor shall enter the certificates given by him in accordance with these regulations.

4. Every examination by the Appointed Factory Doctor for the purpose of these regulations shall be conducted at the factory.

5. Within seven days after the taking of any young person into such employment as aforesaid, the occupier of the factory shall, unless he intends that such employment shall not continue after fourteen days, send notice thereof in writing to the Appointed Factory Doctor, together with particulars showing the times at which the young person will be available for examination at the factory; and it shall also be the duty of the occupier to notify the Appointed Factory Doctor in writing when he desires re-examinations for the purpose of compliance with regulation 2.

6. The occupier of the factory shall, for the use of the examining surgeon, fill in, on a record card to be kept by the Appointed Factory Doctor in accordance with directions of the Secretary of State, the following particulars, namely, the name of the occupier, the address of the factory, the name, address and date of birth of the young person, and the page and number in the register kept in pursuance of regulation 3, where the particulars as to the young person are entered.

7. The occupier of the factory shall provide for the purpose of examinations conducted at the factory in pursuance of the regulations (for the exclusive use of the Appointed

Factory Doctor on the occasion of an examination) a room which shall be properly cleaned and adequately warmed and lighted, and furnished with a screen, a table (with writing materials) and chairs and, unless other arrangements are made to the satisfaction of the Appointed Factory Doctor for taking the weight of the young persons elsewhere, with a suitable weighing machine.

8. The occupier of the factory shall afford to the Appointed Factory Doctor facilities to inspect any process or work in which a young person required to be examined under these regulations has been or is to be employed in the factory.

The approach of the Appointed Factory Doctor and the Industrial Medical Officer towards the medical examination are subtly different, for the former is interested chiefly in what the young person is not fit for, while the latter is more concerned in placing him in work for which he is fitted. Industry should not expect and in any case cannot succeed in obtaining employees free of all defects. Most of those suffering with defects of one sort or another, physical or mental, can be placed satisfactorily, given goodwill on the part of management. The person suffering with heart disease, the mental defective and even the epileptic can all be found suitable jobs. When proper placement is carried out it has been found that time lost due to sickness and accident shows no significant increase in the physically handicapped. This, of course, implies an intimate knowledge by the Industrial Medical Officer of the different jobs which are undertaken in the works with which he is connected, but in order to avoid any confusion or possibility of guess-work it is often an advantage to draw up a job analysis of physical requirements.

A simple method of assessing the requirements for various jobs is shown on page 280.

In certain occupations associated with exposure to the risk of inhalation of harmful dusts, examination before employment is required by various schemes established under the Workmen's Compensation Act 1925 (*see page 309*) and now transferred to the Ministry of National Insurance.

PERIODIC EXAMINATIONS

Almost as important as the placement medical examination is the follow-up of those away from work due to sickness or accident, and their placement in suitable employment on their return to work. Such a system is only possible where a proper record-keeping system is in force, and through it a considerable contribution can be made towards rehabilitation in the factory. Illnesses are in the sense easier to cope with than accidents, for people suffering from them can be divided roughly into those for whom a short introductory period must be arranged before they can resume normal work and those who will remain permanently incapable of undertaking their former occupation. Accidents show a much greater amount of gradation, and if rehabilitation for work in their previous jobs is possible it is as a rule more prolonged. Rehabilitation in a special institution is usually only required in the major accident in which much time has been spent in bed and re-training of the

[illegible]

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whole body as well as of the specifically injured part is needed, but the number of such accidents in industry is relatively small. The majority of injuries involve one of the limbs, and there is no doubt that rehabilitation within the factory is the line to pursue in these cases, nor is a special rehabilitation shop essential for this purpose. Most factories employ too few people for such a scheme to be practicable and with co-operation on the part of the foreman or responsible official it is unnecessary, for adaptation of machines can be done as well in a production shop as in a special department. Provided the doctor knows his factory and will go to the trouble to explain what is required and to supervise the conduct of the case properly, the results will be as good as, if not better than, are obtained in shops organised solely for rehabilitation.

If the surgeon who has dealt with the condition can be persuaded to join in this work, the results will be even more dramatic in the reduction of time lost due to accident, but a great deal of education is still required to persuade many private doctors and hospital staffs that industry is paying more than lip service to rehabilitation. A good liaison between factory and hospital, and with it the satisfactory follow-up of cases which is so important in order that rehabilitation within the factory can begin at the right moment and under the right conditions, is only possible if there is an Industrial Medical Officer to establish it.

The periodical examination of workers exposed to special hazards is a statutory requirement in certain industries and processes and is done either by the Appointed Factory Doctor or a surgeon "appointed" for the purpose who may be the Industrial Medical Officer. These examinations are carried out by virtue of regulations for dangerous trades made under Section 60 of the Factories Act 1937 or under the Defence (General) Regulations.

**Medical Examination
after Employment
required within**

	How often	Nature of Industry
	Weekly	Lead compounds
	Monthly	Accumulators, smelting, paint, pottery
	Quarterly	Enamelling and tinning, lead dye yarn
	Monthly	Rubber solvents
	Fortnightly	Chrome compounds
One week	Monthly	Luminising
Two weeks	Monthly	Nitro and amido compounds
Six months	Six-monthly	Patent fuel manufacture

There are, however, other workers in whom periodical examination requiring routine X-ray examination of the lungs could with advantage be done, as, for example, in those mentioned earlier who are exposed to certain kinds of siliceous dust. Mass radiography, although instituted as a public-health measure for the early detection of pulmonary tuberculosis, may prove in the future a valuable help in the control of these conditions. Up to the present, however, it has not been possible for the Industrial Medical Officer to obtain

ation from official sources about the results of the surveys which have been done, as such information is regarded as confidential. The general practitioner is told of the findings, however, and if good relations exist between him and the Industrial Medical Officer, the latter will generally be able to find out all he wants to know.

SOME OCCUPATIONAL HAZARDS

It has been said that no occupation is free from health hazard and this is almost literally true, although naturally some trades and processes are more risky than others. At the present time there are forty-one prescribed diseases in respect of which a worker may claim benefit as for an accident, and which are indicated on page 306. This list is by no means exhaustive, for silicosis and asbestosis are dealt with under special arrangements and many other diseases and disabilities are not included owing to the weight of evidence which is required before the association of a disease with a particular industry can be established. Before any new process or material is put into use it is essential that its effects be fully investigated and an opinion sought as to its possible harmful action on the worker. It is clearly quite impossible to deal with all the risks to which workers are liable, but it may perhaps be helpful to classify hazards under broad headings thus :

Accidental Injury.—There is little to say about this type of risk except that the majority of accidents occur as a result of the human factor, for example faulty stacking, using worn tools, not taking advantage of protection provided, etc., and only about 10 per cent. are due to mechanical causes and faulty guarding of machines.

Toxic Substances.—These may be in the form of gases, liquids or solids, and they may affect one or more systems of the body. Thus, lead poisoning may result in damage to the nervous system as well as causing an anæmia and gastro-intestinal symptoms. Poisons may make their way into the body through the skin or they may be swallowed or inhaled. In industry, the last mentioned is by far the most common portal of entry and this is true not only of gases, but also of solids which gain entrance to the lungs in finely divided particles as dust, and of liquids which do so by undergoing volatilisation. As an example of a poison absorbed through the skin may be mentioned aniline, although recent research seems to show the main route of its entry to be through the lung. Industrial poisons are hardly ever swallowed. Toxic substances are not only found, as is often thought, in chemical works but are to be met with throughout a wide range of industry. Thus, amongst the liquids may be mentioned carbon disulphide which has been used as an insecticide, in the manufacture of artificial silk and transparent paper, and as a solvent in the preparation of rubber. Examples of the better-known toxic gases are carbon monoxide, carbon dioxide, hydrogen sulphide and nitrous fumes which are to be

encountered by workers in all kinds of occupations, from those working on blast furnaces and electric welding to people engaged in the manufacture of dye stuffs and celluloid.

The effect of a toxic substance which gains entrance to the body through the lungs may be brought about by its absorption into the blood-stream or by its direct effect on the lungs. Thus mercury falls into the first category and through the blood-stream is able to exert its selective action on the tissues of the central nervous system, while the inhalation of free silica or asbestos is followed by the formation of fibrous tissue in the lung.

Radiant Energy.—This covers rays of all sorts, from the ultra-short waves of cosmic energy (0 000001 Ångström units) through gamma rays and X-radiation to ultra-violet rays, the luminous rays and the infra-red rays which range up to a wavelength of 20,000 Ångström units. Radiant energy is a hazard in many industries, not only in those concerned with the harnessing of atomic energy and the use of X-ray apparatus as in some engineering works, but it is also a risk associated with the hot humid atmosphere of a deep mine, with molten-metal ladles in a foundry and from the ultra-violet radiations given off in electric arc-welding. The disabilities which radiant energy causes are as diverse as is its occurrence in industry. Exposure to radioactive substances may result in a severe, fatal form of anæmia or in a malignant form of bone tumour; ultra-violet rays are the cause of flash burns of the eye in the electric arc-welder; while infra-red rays produce, amongst other conditions, heat cataract, heat stroke, heat exhaustion and heat cramps.

Mechanical Effects.—These may occur in those engaged in operations such as grinding metal or using vibrating tools such as fettling chisels and riveting hammers. The condition which arises from such effects is known as "dead hand" and is due to the fact that the circulation of the blood in the affected parts, usually the left hand in a right-handed person, is impaired. Rheumatic changes are also liable to occur in the joints of the upper extremity.

Physical Effects.—A typical example of this is Caisson disease, which, as its name implies, occurs in those working in caissons on harbour construction or the building of tunnels. The condition is due to the fact that gases dissolve in blood and other fluids in direct proportion to their pressure. A man under seventy-five pounds' pressure takes up five times as much gas as at the normal pressure of fifteen pounds. In the case of air, the oxygen is used up in the vital processes of the body but the inert nitrogen is retained, with the result that when the pressure is relaxed it comes out of solution and blocks the circulation of the blood, causing severe cramps and even death.

Bacterial Diseases.—The three scheduled diseases of occupation due to bacterial infection are anthrax, glanders and Weil's disease. Anthrax

is contracted by those engaged in handling hides or wool imported from abroad and obtained from infected animals; it therefore occurs chiefly amongst workers in the wool and tanning industries. Infection with glanders is due either to contact with an infected animal, usually a horse, or occasionally to eating infected horse-flesh. Weil's disease occurs in people whose occupations cause them to work in places infested with rats, which are carriers of the causative organism. It is thus to be met with amongst coal-miners, sewer-workers, fish-cleaners and the like.

All three diseases are of a serious nature and are frequently fatal, but the germs causing anthrax and Weil's disease are sensitive to penicillin, so that the outlook for those infected with these organisms should be better in the future.

Neurotic Disorders.—These conditions arise as a result of a failure on the part of persons suffering from them to adjust themselves satisfactorily to the conditions under which they have to work. An example is the cramp to which telegraphists are subject, which occurs as a result of the degree of accuracy, speed of work, and concentration required in this occupation. Miner's nystagmus probably falls into the same category. Careful selection of workers should do much to exclude those unlikely to be able to stand up to the strain involved by work in the occupations in which these conditions are likely to occur.

Skin Affections.—It has already been said that toxic substances often have a special predilection for some special system or tissue of the body, and of all the tissues the skin is perhaps the most prone to attack. Some account, therefore, of the principal ways in which it may be affected as the result of exposure to irritants may not therefore be out of place.

Occupational dermatitis may be classified into:

- (1) Primary irritation
- (2) Oil folliculitis;
- (3) Allergic sensitisation.

Primary irritation is caused by oils, essential oils, acids and alkalis. This type of reaction occurs in all people, and may be regarded as a normal skin response, but workers with greasy skins are easily irritated by fat-soluble substances while those with dry skins are prone to dermatitis from dusts.

Oil folliculitis is in a different category and is really an inflammatory reaction. This condition is caused by oil invading the hair-root follicle, which sets up an irritation in the follicle, resulting in a mild inflammatory reaction. These reddened areas are discrete and they occur only in the hair root. Secondary infection may take place by the oil bringing in germs from the skin surface, causing oil furunculosis. Oil folliculitis is a primary condition before oil furunculosis can develop.

Allergic sensitisation is a skin reaction to contact with a sensitising

substance and it may appear after years of exposure without previous ill effect. The skin eruption appears first at the point of contact, but may spread later to other parts of the body. This is known as an "id" reaction, and is caused by the irritant being carried in the blood-stream to other areas of the body. It is essential to understand the basic difference between sensitivity and primary irritation.

Young and old people are more liable to dermatitis than are middle-aged people. Fair-haired and red-haired people are more likely to show excessive reactions than dark-haired people, because their skins contain less protective pigment. Thin skins suffer more readily than thick skin, e.g. the skin of the forearm is much more often affected than the palm of the hand. People with a previous history of skin disease are specially susceptible.

All cases of dermatitis should be referred to a doctor

ANCILLARY SERVICES

The preventive functions of industrial medicine have been emphasised so much that it is only fair to say that the ancillary health services in industry, which comprise for the most part foot, eye and dental clinics, differ from the medical service proper, to which they should be subordinate, in that they exist frankly to provide individual treatment. Facilities of this sort can also, of course, be obtained from community services outside the factory, and to this extent ancillary services in industry are in competition with others engaged in similar work. It is therefore important that considerable care should be exercised in their establishment. Consultation should take place with the local people interested or their Associations, and anything that is done should be done by agreement. No attempt must be made to impose on the worker as a condition of employment the service rendered by the clinics. Such an attempt would in any case be unsuccessful. The whole question of ancillary services in industry is affected by the advent of the National Health Service, which will certainly tend to restrict the establishment of dental and eye clinics in industry.

Dental Service.—Although a dental service affords treatment, it makes some contribution to preventive medicine in that proper care of the teeth and education in oral hygiene tend to reduce the incidence of sickness and the vague ill health caused by septic teeth. The placement medical examination should include an examination of the teeth, and it is a sound policy in the case of young persons to make it a condition of employment that defective teeth should receive attention at the firm's expense within a stated period. To what extent such a scheme can be made to fit into the National Health Service remains to be seen.

It is estimated that one whole-time dentist is required to cope with a

general factory of five thousand workers, or as small a number as three thousand if there is a special hazard such as lead or phosphorus. It can be said, in fact, that apart from factories in which there are special hazards, the full-time dentist is quite beyond the scope of all but the largest units. In establishments of this sort it may be justifiable to appoint a full-time dentist, if there is a juvenile population large enough and stable enough, but in general it is not to be recommended unless the works is in a very isolated place. Opposition is likely to be met from the local dental practitioners and, indeed, the policy of the British Dental Association states "that it is no longer necessary or desirable to advise employers to establish dental treatment centres other than for the purpose of treatment of emergency cases and inspection."

On the whole, and especially at the present time, it would seem wiser to provide a part-time service which may be of various types, thus:

(1) A dental practitioner can be employed to examine new entrants and recommend treatment, leaving it to the employee to make his own arrangements about treatment.

(2) An arrangement can be made for the dentist to visit once or twice a week, and advise on treatment in addition to, or instead of, possibility (1).

(3) The firm can make a contract with a local practitioner to treat employees in works time at his private surgery.

(4) A properly equipped dental surgery may be provided and a dentist engaged at an annual salary to carry out compulsory initial treatment of juveniles and subsequent voluntary treatment.

The last-mentioned scheme is open to much the same objection as the appointment of a whole-time dentist, but there is no doubt that if the teeth of the young person up to the age of eighteen have been looked after well, he is unlikely to neglect them when he is older. Experience has shown that a satisfactory arrangement is proposal (2), provided that it includes the examination of new entrants. The response on the part of the young person, or rather his parents, is, however, none too good unless dental treatment, if required, is made a condition of employment.

In the absence of a fully equipped dental surgery the capital cost required in establishing a Dental Service is negligible, as all that is required is a room, a chair, good light, two or three dental probes, two or three dental mirrors, three kidney trays long enough to take the probes, and a jar containing wool swabs. On the other hand, if a dental surgery proper is envisaged so that a full comprehensive Dental Service may be undertaken, including the preparation of dentures, etc., the cost of equipment will be considerable, amounting to as much as £2,000. If a dental workroom is not included, this figure might be reduced to about £1,000. The fees recommended are from £750 to £1,000 per annum for a full-time Dental Officer, and he will require at least one assistant who does not need to hold any special qualifications and can be trained by the dentist himself.

If, however, the Dental Officer attends only part-time, the recommended rates are as under :

Dental Officers

1 session weekly . .	4 guineas
2 sessions weekly . .	6 guineas
3 sessions weekly . .	8 guineas
4 sessions weekly . .	9 guineas
5 sessions weekly . .	10 guineas
6 sessions weekly . .	11 guineas
7 sessions weekly . .	12 guineas

(The above fees relate to a session of 2½ hours.)

Specialist Dental Officers

1 session weekly . .	5 guineas
2 sessions weekly . .	10 guineas

(Every additional session thereafter, 3 guineas per session. The above fees relate to a session of 2 hours.)

In recent years many dentists have advocated the training of staff to undertake certain routine work such as the removal of tartar and other procedures covered by the term "oral hygiene." There is no doubt that there is a place in industry for people trained to carry out such work, but the greatest care would be necessary in making such an appointment, which should only be done with the advice of a qualified dentist.

The dentist should, of course, decide all details of treatment in his own sphere of work, but administratively he should be responsible to the Industrial Medical Officer. In the selection of a Dental Officer much the same qualities as those required in the doctor should be looked for. He should be well qualified, and in addition to having a good approach to patients he should also be capable of instructing employees in the proper care of their own and their children's teeth, for their state is in general poor, chiefly due to lack of knowledge of ordinary dental hygiene. Suitable propaganda can do much to bring about an improvement, and help with regard to this can be obtained from the Dental Board of the United Kingdom (66, Portland Place, London, W.1), who will supply posters, literature, films and lantern slides. It is a good plan to supply toothbrushes and dentifrice at cost price to workers as an inducement to look after their teeth properly.

Eye Service.—The assessment of visual acuity forms a part of the placement medical examination, and the importance of eyesight sufficiently good to be able to carry out the work required of an employee is so obvious as to be in itself justification for the institution of such examinations. The detection of eye defects in prospective employees will increase the efficiency of any industry by excluding those unfitted to undertake certain kinds of work, but it is essential in those involving fine repetition processes and in precision work generally. Examples are linkers in the hosiery industry and

certain occupations in connection with the manufacture of radio valves. In selecting candidates for work of this type, special examinations to determine muscle balance as well as visual acuity are required, and unless the Medical Officer has himself received special training, the method of choice in such cases is to secure the services of a visiting Ophthalmic Surgeon. The result of the examination must, of course, be fully discussed with the candidate for employment, and if the condition is such that it cannot be corrected sufficiently to undertake the work required, an alternative occupation must be found if available. On the other hand, if the eye defect is amenable to treatment, suitable spectacles can be obtained through the National Health Service on the recommendation of a doctor.

In industries in which the visual acuity required is high, it is unsatisfactory to rely upon the services of any but the trained Oculist. In view of the shortage of properly trained doctors, it may be permissible, however, to call upon the sight-testing Optician to give such tests as are required in industries in which the standard is not too exacting.

It is difficult to give an indication of the cost of services such as those which have been described and an *ad hoc* agreement should be made with the Oculist. Advice can always be obtained from the local branch of the British Medical Association or from its Headquarters, Tavistock House, Tavistock Square, London.

Foot Clinics.—Workpeople seldom visit a private Chiropodist, and for this reason alone the establishment of a Foot Clinic in the factory does not as a rule conflict with outside vested interests; moreover, the number of Chiropodists in practice is relatively small. There is no doubt that a great deal can be done to improve the state of the feet of the working population, and to this extent Foot Clinics, like Dental Clinics, can be regarded as making a contribution to preventive medicine, mainly in the sense that suitable treatment is likely to prevent bad becoming worse. Although modern footwear, especially that worn by women, has shown a great improvement in recent years and as a result foot troubles have tended to be less, nevertheless, attendance at a clinic in the factory gives an opportunity for advice to be given on the need for care of the feet and for the use of suitable boots and shoes, including those with reinforced toe-caps which do so much to reduce the incidence of fractures of the toes so common in the heavier industries.

The Chiropodist who is engaged should be a registered medical auxiliary and he or she should attend on a sessional basis providing whatever instruments may be required. Materials, which are a trifling expense, should be supplied by the firm and will include cotton wool, felt and strapping. A session should last from two to three hours and, assuming that ten minutes is required for each patient, some ten to twelve people can be treated at a session. The number of attendances which will be needed can be calculated easily as a session once a week will provide adequate service for each thousand employees.

No special accommodation is needed, and for the Foot Clinic a small room can generally be made available for the comparatively short periods during which it is required. If this should not be possible, a portion of the surgery can be screened off to serve the needs of the Chiropodist. As to equipment, a special chair for the purpose is an advantage although it is not absolutely essential, for proper treatment can be carried out by using a couch or a stool and an ordinary chair. A charge should be made for the service, and although a foot service can, of course, be made self-supporting if appropriate fees are charged, it is wise to subsidise it to some extent. The payment should be made direct to the Chiropodist by the firm, either according to the number of treatments given or by means of an agreed fee per session, the amount due from the individual worker being recovered from him in accordance with the provisions of the Truck Act.

The scale of salaries recommended by the Society of Chiropodists for Registered Medical Auxiliary Chiropodists is as follows:

Whole-time Appointments

Chiropodist holding full-time appointment	£210—15—300	Chiropodist in charge of a department with assistants	£375—25—450
Chiropodist in a department without assistance	£250—25—375		

Part-time Sessional Appointments

1 session of not more than three hours	£ s d 1 11 6	2 sessions worked on the same day	£ s d 2 12 6
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Notes

Hours of duty should not exceed 33 per week, inclusive of clerical work.

The above suggested rates are exclusive of cost-of-living bonus.

Physiotherapy.—The provision of infra-red ray equipment is of great assistance in the factory, for by means of it strains and sprains, fibrositis and the like can be treated, often in collaboration with the local hospitals, saving much time which would otherwise be needed to visit an outside clinic. Except in the very large establishments it is, however, a mistake to embark on an ambitious programme involving the provision of elaborate equipment and the appointment of a Physiotherapist. If such a scheme is instituted, there is, in fact, a danger that the injured worker will come to rely on the treatment given by the Physiotherapy Department rather than play an active part which is so necessary to his rehabilitation.

Ultra-violet radiation, with proper precautions and in trained hands, can be used successfully in the treatment of a variety of conditions likely to be met with in industry and suitable to be dealt with in a factory clinic, but much controversy has taken place recently with regard to its merits as a general tonic and as a means of keeping up the resistance of the worker to

disease as a whole. Exposure of employees for a period of three minutes twice a week has been stated to give good results, but a comprehensive investigation of the problem undertaken recently by the Industrial Health Research Board did not lend support to many of the claims made for the method. It is probably wiser at the present stage to await further proof of the value of ultra-violet radiation as a preventive measure before installing an apparatus which is by no means cheap.

The scale of salaries recommended by the Chartered Society of Physiotherapy are as follows:

Superintendent Physiotherapist

With 1 to 3 Assistants	£320 p.a. rising by 4 annual increments of £15 to £380
With 4 to 8 Assistants	£350 p.a. rising by 6 annual increments of £15 to £440
With 9 or more Assistants	£420 p.a. rising by 6 annual increments of £15 to £510 ¹

Physiotherapist in Sole Charge

£300 p.a. rising by 4 annual increments of £15 to £360.

Physiotherapist

£270 p.a. rising by 6 annual increments of £12 10s to £345.

Part-time Staff

Regular Part-time Appointments—The salary for regular part-time appointments in any grade should be proportionate to the salary for a full-time appointment in that grade, plus 10 per cent.

Temporary Part-time Appointments—Payment for temporary part-time appointments should be on a sessional basis at the rate of 4s 6d. per hour.

Allowance for Uniform and Laundry.—It is recommended that the employing authority should be responsible for the provision and laundry of uniform (white coats) but with freedom to apply a cash allowance in lieu if they so prefer.

Radiology.—A reason which has led to the establishment of X-ray departments in industry has been the occurrence of a considerable number of serious casualties in which a prompt diagnosis as to the presence of bony injury is considered necessary. Again, the existence of a hazard such as silicosis or asbestosis, in which the selection of workers free from defects in the lungs is of paramount importance, calls for the provision of X-ray apparatus.

Clearly, only those organisations which employ a large number of employees can undertake the expense of installing expensive X-ray equipment and the payment of the trained staff required to operate it, which should include a radiologist even if only in a consultant capacity. Nevertheless, when an X-ray plant has been provided in industry its uses have been many, especially in the routine follow-up of those exposed to a dust hazard, for by means of it early changes in the lung can be recognised and suitable measures instituted before the worker has suffered serious

¹ It is open to the employing authority, in exceptional circumstances, to exceed the maximum for this grade.

damage. Reference has been made earlier to the use which mass radiographic surveys may play in the control of dust hazards in those exposed to risk, but it has yet to be proved that the 16-mm. film in itself is a reliable test as to the occurrence of dust changes in the lung.

In the small unit, cases of accident in which bony injury is suspected will naturally be sent to hospital for X-ray and, if there is a dust risk, suitable arrangements can generally be made for the radiography of new entrants and routine check of those exposed to the hazard, through either the local hospital or radiologist. If the establishment of an X-ray department is contemplated, it should naturally be done only on medical advice and, indeed, should only be considered in factories in which an organised medical service is already in existence.

The cost of X-ray apparatus varies greatly according to the purpose for which it is required, but the provision for accommodation (Radiographic Room, Dark-room) and equipment could hardly be undertaken for much less than £1,500.

The scale of salaries recommended for a single-handed Radiographer is from £297 10s. rising to £310 p.a., or from £310 to £385 p.a., according to the nature of the post and experience required.

For part-time Staff the following rates of remuneration are recommended:

Where there is no other Radiographer 18s. per session of not more than a half-day, and 30s. for a session equal to one normal day.

Where acting as an Assistant Radiographer 15s. per session of not more than a half-day, and 25s. for a session equal to one normal day.

Ante-natal Clinics.—Ante-natal Services served a useful purpose during the late war in large firms employing many women, but they have no place in industry in peace-time. Co-operation with the outside authority by the Industrial Medical Officer will enable suitable modifications of hours and jobs to be made for expectant mothers.

General Costs.—The cost of an Industrial Medical Service is difficult to compute, for so much depends on its scope, which varies much from one organisation to another. It will be possible to obtain some indication of the cost of staffing from the scales of salary which have been quoted earlier, but clearly the extent of the ancillary services provided will have considerable effect on the total. As a rule of thumb, however, it may be said that the running costs of a Medical Department will vary between £1 and £3 yearly for each worker employed.

LEGISLATION

The Factories Acts 1937 and 1948.—Many references to the legal requirements in industry have been made in the preceding pages and the majority derive their authority by virtue of one or other of the provisions of

the Factories Acts of 1937 or 1948. This is not very surprising, for these Acts are far and away the most important and comprehensive pieces of legislation dealing with the health and safety of workers. They constitute, in fact, a major contribution to the maintenance of the Public Health and as such may also be regarded as important factors in the development of that branch of medicine, now called Social Medicine, in which the study of Industrial Health plays an important part.

It must be realised, however, that by no means all workers are covered by the Factories Acts, and it is perhaps easier to give an indication of those whose conditions of work do not come under its control than of those to whom its provisions apply. The former group comprises amongst other workers all those engaged in Shops and Offices, Mines and Quarries (except those more than twenty feet in depth), Transport including Railways, Road Transport and Merchant Shipping. The hours and conditions of work of most of those engaged in the industries mentioned are controlled by other Acts such as the Shops Act and the Coal Mines Act, and a table is printed below showing the main groups of workers, the Acts of Parliament governing the industry in which they are engaged as well as the statutory body responsible for the enforcement of the legal requirements.

Industry	Act	Statutory Body which Administers
Coal Mines	Coal Mines Act 1911	Ministry of Fuel and Power
Metalliferous Mines	Metalliferous Mines Regulations Act 1872	Mines Department
Quarries	Quarries Act 1894	Mines Department
Railways	Railways Acts 1871, 1893, 1921	Ministry of Transport
Road Transport	Road Traffic Act 1930	Ministry of Transport
Merchant Shipping	Merchant Shipping Acts 1894, 1900	Board of Trade
Shops	Shops Act 1912-36	Local Authority
Factories, including work which is being carried out on a ship while in a harbour or wet dock, and work of engineering construction and building operations. The employment of young persons employed in collecting, carrying or delivering goods or running errands wholly or mainly outside a factory or in connection with any business carried on at a dock, wharf or quay, or in connection with the loading or unloading or coaling any ship, is also regulated.	Factories Acts 1937, 1948	Ministry of Labour and National Service

Although the Factories Acts do not control the working activities of all those gainfully occupied, nevertheless their scope is so much wider than that of other legislation controlling industrial conditions that examination of them must take pride of place. Reference has already been made to the implications with regard to Public Health which are inherent in the Factories Acts, but much of it is preventive in a wider sense and is dealt with in the chapters devoted to Industrial Safety, Hygiene and Lighting. There remain, however, many sections which do not fall under any of these headings, and it is proposed to deal *seriatim* with the more important provisions directly concerned with medical matters. The Section numbers refer to the 1937 Act.

Section 11 gives power to the Minister of Labour and National Service (formerly province of the Secretary of State) to require medical supervision in any factory if there is an undue incidence of illness or accident.

Section 46.—The Minister has power under this section to make welfare regulations for such industries as he may think fit. Regulations have, in fact, been made for twenty-four industries, although most of the provisions are already covered by the Act in other sections. The provisions vary somewhat, according to the special risk of the trade to which the particular regulations apply. Regulations made under this section require an ambulance room to be provided in certain industries. The requirements in this respect are dealt with fully on page 263.

Section 47 is of great importance from the medical point of view as it requires all practicable measures to remove any substantial amount of dust of any kind, and not only dust, but also fume or other impurity likely to damage health or to be offensive.

Section 48 provides that no eating or drinking may be allowed in places where poisonous substances give rise to dust or fume, nor may workers remain in the room during breaks except during recognised rest-pauses.

Section 50 empowers the Minister to make regulations to prohibit the practice of shuttle kissing in the cotton industry. No regulations have, in fact, been issued, but there is no doubt that the practice is a dangerous one and must encourage the spread of disease.

Section 51 prohibits the use of yellow phosphorus for matches. Phosphorus poisoning no longer occurs in the match industry following legislation first introduced in 1907.

Section 56.—This section prohibits the lifting of weights by young persons, and also gives power to make special regulations governing the lifting of weights by workers other than young persons. In fact, only one set of regulations has been issued which deals with the woollen and worsted trades.

The Woollen and Worsted Textiles (Lifting of Heavy Weights) Regulations 1926. Date, November 18th, 1926. (S. R. & O. 1926, No. 1463.)

1. *No person employed* shall by himself lift by hand any material, yarn, cloth, tool or appliance exceeding the maximum limits in weight set out in the Schedule to these Regulations.

2. *No person employed* shall engage, in conjunction with others, in lifting by hand any material, yarn, cloth, tool or appliances, if the weight thereof exceeds the lowest weight fixed by the Schedule of any of the persons engaged multiplied by the number of the persons engaged.

3. A piece of cloth in long cuttle or a sheet of loose material shall not be deemed to be a reasonably compact or rigid body for the purpose of these regulations.

INDUSTRIAL HEALTH

Schedule

<i>Person employed</i>	<i>Maximum weight where material, yarn, cloth, tool or appliance is a reasonably compact or rigid body</i>	<i>Maximum weight where material, yarn, cloth, tool or appliance is not a reasonably compact or rigid body</i>
	<i>lb.</i>	<i>lb.</i>
(a) Man	150	120
(b) Woman of 18 years of age and over	65	50
(c) Male young person over 16 and under 18 years of age	65	50
(d) Female young person under 18 years of age	50	40
(e) Male young person under 16 years of age	50	40

Section 57 prohibits the employment of female young persons in certain processes which expose those engaged in them to high temperatures, i.e.:

- (a) melting of or blowing of glass other than lamp blown glass.
- (b) annealing of glass other than plate or sheet glass.
- (c) evaporating of brine in open pans or the stoving of salt.

Section 58.—Women and young persons are not allowed by this section to work in certain lead processes:

- (a) Work at a furnace where the reduction or treatment of zinc or lead ores is carried on.
- (b) The manipulation, treatment or reduction of ashes containing lead, the desilvering of lead, or the melting of scrap lead or zinc.
- (c) The manufacture of solder or alloys containing more than 10 per cent. of lead.
- (d) The manufacture of any oxide, carbonate, sulphate, chromate, acetate, nitrate, or silicate of lead.
- (e) Mixing or pasting in connection with the manufacture or repair of electric accumulators.

(f) The cleaning of workrooms where any of the processes aforesaid are carried on.

Section 59.—1. A woman or young person shall not be employed in any factory in any process involving the use of lead compounds if the process is such that dust or fume from a lead compound is produced therein, or the persons employed therein are liable to be splashed with any lead compound in the course of their employment unless the following provisions are complied with as respects all women and young persons employed:

(a) Where dust or fume from a lead compound is produced in the process, provision shall be made for drawing the dust or fume away from the persons employed, by means of an efficient exhaust draught so contrived as to operate on the dust or fume as nearly as may be at its point of origin.

(b) The persons employed shall undergo the prescribed medical examination at the prescribed intervals, and the prescribed record shall be kept with respect to health.

(c) No food, drink or tobacco shall be brought into or consumed in any room in which the process is carried on, and no person shall be allowed to remain in any such room during meal times.

(d) Suitable protective clothing in a clean condition shall be provided by the occupier and worn by the persons employed.

(e) Such suitable cloak-room, mess-room, and washing accommodation as may be prescribed shall be provided for the use of the persons employed.

(f) The rooms in which the persons are employed, and all tools and apparatus used by them, shall be kept in a clean state.

2. It shall not be lawful to employ in any process involving the use of lead compounds any woman or young person who has been suspended after medical examination from employment in any such process on the ground that continuance therein would involve special danger to health.

Section 60.—Power is given by this section to make regulations about safety and health. Fifty sets of regulations have already been made, usually in standard form, with obligations on employer and employee. They vary in detail according to the risk but are all designed to keep down or remove noxious substances in the form of dusts, vapours, gases, sprays or rays; they usually provide amongst other things for First-aid Equipment and the keeping of health registers. Those regulations requiring periodic medical examination have been tabulated on page 281. The trades in respect of which regulations have been made under this section are as follows:

Aerated Water, manufacture of.
Asbestos.
Brass, etc., casting of.
Bronzing.
Building.
Building (amendment).
Celluloid, manufacture, manipulation and storage.
Cellulose solutions
Chemical Works.
Chromium-plating.
Cinematograph Film manufacture.
Cinematograph Film stripping.
Cotton Cloth factories.
Cotton Cloth factories—hygrometers.
Docks, Wharves and Quays, loading and unloading, etc., at.
Docks.
Electric Accumulators, manufacture of.
Electricity, generation, transformation, distribution and use of.
Enamelling, vitreous, of metal or glass.
Felt Hats, manufacture of (with aid of inflammable solvent).
File-cutting by hand.
Flax and Tow, spinning and weaving of, etc.
Grinding of Cutlery and Edge Tools.
Grinding of Metals (miscellaneous industries).
Hemp, Jute, and Hemp or Jute Tow, spinning and weaving of, etc.
Hides and Skins, handling of, etc.
Horizontal Milling machines.
Horizontal Milling machines (amendment).

Horse Hair from China, Siberia, or Russia, use of.
India-rubber, manufacture, etc.
Kiers.
Lead, manufacture of certain compounds of.
Lead, smelting of materials containing, manufacture of red or orange lead and of flaked litharge.
Locomotives and Wagons, use of, on lines and sidings.
Mules, self-acting, spinning by means of.
Luminising (Health and Safety Provisions).
Magnesium (Grinding of Castings).
Painting of Buildings with Lead Paints.
Painting of Vehicles with Lead Paints.
Paints and Colours, manufacture of.
Pottery, manufacture and decoration of, making of lithographic transfers, frits or glazes.
Pottery (Silicosis).
Refractory Materials.
Shipbuilding.
Tinning of Metal Hollow-ware, Iron Drums, and Harness Furniture.
Woodworking Machinery, use of.
Wool, East Indian, use of.
Wool, Goat Hair and Camel Hair, sorting, willeying, washing, combing and carding, etc.
Woollen and Worsted Textiles (lifting of heavy weights).
Yarn, heading of, dyed by means of a lead compound.

In addition, Orders have been issued under the Defence (General) Regulations 1939 to cover certain other Dangerous Processes.

Factories (Testing of Aircraft Engines, Carburettors and other Accessories) Order 1944 (S. R. & O. 1944, No. 495).

INDUSTRIAL HEALTH

Patent Fuel Manufacture (Health and Welfare) Order, 1944 (S. R. & O. 1944, No. 521).

Electricity (Factory Act) Special Regulations, 1944 (S. R. & O. 1944, No. 739).

Section 64.—This section requires notification of accidents involving loss of life or in which an employee is incapacitated for more than three days.

Section 66.—Certain industrial diseases are notifiable by the occupier of the factory and the doctor treating the case under the provisions of this section. They are as follow :

Diseases

Lead poisoning.
Phosphorus poisoning
Manganese poisoning.
Arsenic poisoning.
Mercury poisoning.
Carbon bisulphide poisoning.
Aniline poisoning.

Chronic benzene poisoning.
Toxic jaundice.
Anthrax.
Epitheliomatous ulceration.
Chrome ulceration.
Compressed-air illness.
Toxic anemia

Section 70.—The hours of work which are permitted to women and young persons are as shown below :

The total hours worked must not exceed forty-eight hours per week or nine hours in a day.

Young persons under sixteen years of age must not start work earlier than 7 a.m., or continue after 6 p.m.

Women and young persons over sixteen years of age must not start work before 7 a.m., or continue after 8 p.m.

Section 73.—This deals with overtime for women and young persons. Its provisions can be summarised thus :

Overtime must not exceed 100 hours in a year, 6 hours in a month.

Nor must it continue for longer than 25 weeks.

The total hours of work must not exceed 10 in a day.

The period of employment must not exceed 12 hours in a day.

Section 76.—Women and young persons during intervals for meals or rest are not allowed to remain in a room where a process is taking place.

Section 81.—This section concerns the employment of young persons on shift work and has already been described on page 278.

Section 99.—This is concerned with the examination of young persons under sixteen by the Appointed Factory Doctor and has already been dealt with on page 277.

Section 100.—The inspector is given power to refer a young person for examination by the Appointed Factory Doctor if for any reason he is dissatisfied with the state of health of the boy or girl.

Section 126.—The Appointed Factory Doctor is not allowed to examine young persons in any factory in which he is interested. The Appointed Factory Doctor can inspect the general register, he must make an annual report and he may be required to make special inquiry and examination of employed persons. If an Appointed Factory Doctor has not been appointed, his duties are undertaken by the Poor Law Medical Officer. The remaining provisions of this section have already been given on page 276.

Section 127.—The Appointed Factory Doctor's fees in respect of the examination of young persons are payable by the occupier of the factory and are on the scale printed below :

(Payable by the Occupier: section 127 and Order of 11th May, 1938.)

For examinations of young persons under section 99 or section 81 (4) of the Act with respect to their fitness for employment the issue or refusal of the certificate (including

the issue of any provisional certificate under section 99 (2) of the Act) and all other duties performed in connection with the examination:

When the examination is at the factory	{ 5s. for the first and 2s. 6d. for each other person examined on the occasion of any one visit to the factory, and, in addition, if the factory is more than two miles from the Surgeon's central point, 1s. for each complete mile over and above the two miles.
When the examination is not at the factory but at the residence of the Surgeon, or at some place appointed by the Surgeon for the purpose and approved by the Chief Inspector of Factories	{ 2s. 6d. for each person examined.

Besides the Factories Acts, there are various subsidiary Acts which should be mentioned.

The Employment of Women, Young Persons and Children Act 1920. This Act was passed in order to give effect to certain conventions adopted by general conferences of the International Labour Office at Washington 1919 and Genoa 1920. The effect of the Act is to disallow night work for women and young persons and to prohibit the employment of those under fourteen.

The Children and Young Persons Act 1933 prohibits employment of children two years younger than school-leaving age and does not permit work involving:

- More than two hours on a day when attendance is required at school, or on a Sunday;
- Before 6 a.m. or after 8 p.m.;
- Before the close of school hours;
- The lifting, carrying or moving of anything heavy.

The local authority may make by-laws more particularly to allow of one hour's work before school and also re-employment of young persons under eighteen—broadly, those engaged as errand boys.

The Hours of Employment (Conventions) Act 1936 passed to carry out the convention adopted by International Labour Office on night work for women.

No woman is allowed to work at night, but women occupying managerial positions are exempted from restriction of hours.

Also controls hours of work in automatic Sheet Glass Works.

The Baking Industry (Hours of Work) Act 1938.—No work is permitted between 11 p.m. and 5 a.m., although in certain circumstances there is power to relax.

The Lead Paint (Protection against Poisoning) Act 1926 authorises regulations which have been issued. (S. R. & O. 1927, No. 847.)

- (a) To prohibit dry rubbing down and scraping.
- (b) To prevent application as a spray.

- (c) To prohibit dry rubbing down and scraping.
- (d) To provide periodical medical examination if required.
- (e) To secure facilities for washing.
- (f) For use of protective clothing.
- (g) For issue of instructions re hygiene.
- (h) To prohibit employment of women and young persons.
- (i) To require master painters to register with Inspector of Factories and keep a list of those employed and where they work.

The Public Health Act 1936 has little of importance from the standpoint of industrial health in its narrower sense except section 205, which precludes a woman from returning to work within four weeks after having given birth to a child. There are general provisions dealing with environmental matters affecting buildings of all kinds.

The Shops Acts 1912 and 1934 are enforced by the local authority, whose inspectors have like powers *mutatis mutandis* as Inspectors of Factories.

The main provisions of the 1912 Act are concerned with hours of employment, and it is laid down that one half-day after 1.30 p.m. must be allowed to each employee. Three-quarters of an hour between 11.30 a.m. and 2.30 p.m. must be given for the midday meal if taken on the premises, and if not, one hour must be allowed. If work is continued after 7 p.m., half an hour must be allotted for tea and in any case a break after six hours' continuous work is required.

The Shops Act 1934 regulates the employment of persons under eighteen, who normally must not be employed for more than forty-eight hours weekly although overtime is permissible when pressure of work demands.

Overtime must not exceed 6 weeks in 1 year,
50 hours in 1 year,
12 hours in 1 week.

No work is permitted between 10 p.m. and 6 a.m., and an interval of eleven hours must elapse after leaving before again returning to work. The latter provision, however, does not apply in the case of shops selling milk, bread or newspapers. Young people must not be employed in spells of work.

The Young Persons Employment Act 1938 prohibits the employment of young persons for more than forty-four hours weekly.

Overtime must not exceed 6 hours in 1 week,
50 hours in 1 year,
12 weeks in 1 year.

The Act is applicable not only to those working in shops, but also to errand boys, page boys, cinematograph operators and such-like.

The Anthrax Prevention Act 1919 permits of Orders in Council restricting the import of infected material unless it is passed through the Government Disinfecting Station and an embargo is placed on the importation of goat hair, as well as wool and animal hair from Egypt and the Sudan, and horse hair

from China, Siberia and Russia. Regulations are in force for the conduct of various operations in connection with sorting, combing and carding the wool.

The Coal Mines Act 1911 has little concerning health except section 15, which requires a fireman, examiner or deputy to obtain every five years a certificate from a duly qualified medical practitioner or from an Approved School, Institution or Authority to the effect that his eyesight and hearing are such as to enable him to carry out his duties efficiently.

Section 80 deals amongst other matters with the notification to the inspectorate of any accident involving loss of life, fracture of the head or of any limb or any dislocation of a limb or any other serious personal injury.

Under the General Regulations of 10th July, 1913, as amended up to August 1938, a workman is required by Regulation 29 to "proceed to the appointed place for first-aid treatment" if he should sustain "any personal injury causing him to absent himself from his work." Regulation 36 imposes on the manager the duty of investigating carefully anything affecting the safety or health of persons in or about the mine.

The Rescue Regulations, Part IV, 8*b*, require every rescue worker to be examined every twelve months by a doctor who must satisfy himself that the worker is free from organic disease or weakness, tendency to fainting, chronic obstruction of the air passages, dyspnoea on light exertion, nystagmus, any marked degree of myopia or other optical defects or disease or deafness. The worker must be of good physical development and mental alertness, and he must be capable of hard physical exertion for fifteen minutes without undue distress.

Part V lays down that the breathing apparatus and smoke helmets used in rescue work shall be tested periodically, while the Eighth Schedule prescribes the attendance of a doctor at the mine as long as rescue parties are at work, unless the Inspector, the manager and the miners' representative consider that his attendance is not required. Every man on rescue work must be medically examined before undertaking a second spell of duty.

Comprehensive regulations for first aid are in force by virtue of the Coal Mines General Regulations (First Aid) 1930 amended by Regulations 1937, No. 548.

At every mine where the total number of persons employed in any one shift exceeds one hundred, a first-aid room is required which must not be used for any other purpose, must be adequately heated, lighted, and kept clean. The room must have a floor space of not less than one hundred square feet, and the words "First Aid" must be painted on the door.

The first schedule gives the minimum equipment required:

Equipment of First-aid Room

- (a) A stretcher and a table of convenient height (about 2½ feet), large enough to stand the stretcher on.
- (b) A bench or chairs.
- (c) A glazed sink, with cold water and hot water readily available.
- (d) Soap, towels and a nail-brush.
- (e) A supply of suitable sterilised dressings, bandages and adhesive plaster.
- (f) A supply of tincture of iodine (2 per cent. alcoholic solution) or other antiseptic approved by the Minister of Fuel and Power, and of picric acid (1 per cent. aqueous solution), a bottle of eyedrops (No. 1).
- (g) Blankets and hot-water bottles.

INDUSTRIAL HEALTH

- (h) Sets of splints (4½ feet, 3 feet and 1 foot) with the necessary triangular bandages for applying them, together with a supply of splint padding.
- (i) A supply of drinking water and a bottle of meat extract, coffee extract or other stimulant, and a drinking vessel.
- (j) A tourniquet, scissors, camel-hair brushes and safety-pins.

The first-aid room has to be placed under the charge of a qualified nurse or doctor or a person holding a certificate of proficiency in first aid, and the person in charge must be appointed in writing by the manager. A record of all cases treated at the first-aid room is required, and the minimum particulars to be entered are name of the person treated, the time and date of treatment, the nature of the injury or sickness and the name of the person undertaking the treatment. In mines in which the total number of persons employed in any one shift is less than one hundred, a "suitable place" must be provided "under shelter at the surface of the mine where sick and injured persons can receive first-aid treatment and when necessary be protected from exposure until they can be removed in an ambulance." The minimum equipment in such a case is prescribed in the Second Schedule :

Equipment at Mines where a First-aid Room is not Provided

1. A stretcher (with blankets and hot-water bottles).
2. Sets of splints (4½ feet, 3 feet and 1 foot) with the necessary triangular bandages for applying them, together with a supply of splint padding.
3. A first-aid box containing at least :
 - (a) A copy of the First-aid Leaflet issued by the Ministry of Fuel and Power (M. & Q. Form 99).
 - (b) A sufficient supply of large and small sterilised dressings.
 - (c) A sufficient supply of sterilised burn dressings.
 - (d) A sufficient supply of sterilised cotton-wool in ½ oz. packets; and of adhesive plaster.
 - (e) A supply of roller bandages.
 - (f) A supply of tincture of iodine (2 per cent. alcoholic solution) or other antiseptic approved by the Minister of Fuel and Power.
 - (g) A bottle of meat extract, coffee extract or other stimulant, and a drinking vessel.
 - (h) A bottle of eyedrops (No. 1).
 - (i) A tourniquet, scissors and safety-pins.

Each first-aid box shall be marked with the words "First Aid" and nothing except appliances or requisites for first aid shall be kept in it.

The persons or person in charge must be "responsible" and appointed in writing by the manager; in all pits employing more than thirty men underground, a "sufficient number of those employed" shall be first-aid men holding certificates in proficiency—namely, in the proportion of one in respect of every fifty persons employed at any one time in any district of a fireman, examiner or deputy; and not less than in the proportion of one to every thirty persons employed elsewhere underground.

If it can be shown that the necessary arrangements for training have been made and reasonable efforts have been used to induce the workers to take up first-aid work and that nevertheless insufficient trained workers are available

to carry out the requirement, "no breach . . . shall be deemed to have arisen."

The list of first-aid men employed underground has to be kept posted up in the first-aid room or elsewhere at the surface of the mine.

The provision of dressings is a complicated matter and the regulations dealing with their supply are quoted below :

Dressings and antiseptic for use therewith underground shall be provided by the owner and distributed in one or both of the following ways or in such other way as the Minister of Fuel and Power may approve :

(i) Each person employed underground shall carry with him a first-aid outfit consisting of one large sterilised dressing, one small dressing and an ampoule of tincture of iodine (2 per cent. alcoholic solution) or other antiseptic approved by the Minister of Fuel and Power. This outfit shall be securely packed to protect it against damage, dirt and wet.

(ii) Each first-aid man employed underground in pursuance of Regulation 7 shall be provided with, and shall keep readily available underground, a first-aid box containing the articles prescribed in the Third Schedule of these Regulations.

(iii) Every first-aid outfit and first-aid box provided in pursuance of this Regulation shall be taken to the surface at the end of the shift by the person in charge of it and shall there be examined and, when necessary, replenished by the person in charge of the first-aid room, or other competent person appointed in writing by the manager. The first-aid box shall contain at least :

(a) A sufficient number (not less than three) of large sterilised dressings.

(b) A sufficient number (not less than six) of small sterilised dressings.

(c) A sufficient number of large sterilised burn dressings.

(d) A sufficient number (not less than three) of ampoules of iodine (2 per cent. alcoholic solution) or other antiseptic approved by the Minister of Fuel and Power.

Each box shall be marked with the words "First Aid," and nothing except appliances or requisites for first aid shall be kept in it.

Certain other equipment is also required as indicated below :

The following equipment shall be provided by the owner and maintained at convenient places underground throughout the mine, to be known as first-aid stations :

(i) Suitable stretchers. (Stretchers kept in wet or damp places shall be constructed of rot-proof or rust-proof materials.)

(ii) Sets of splints (4½ feet, 3 feet and 1 foot) and, kept with them, the necessary triangular bandages for applying them.

(iii) A tourniquet.

(iv) A sufficient supply of sterilised burn dressings (where first-aid outfits are relied upon exclusively).

It shall be the duty of the first-aid men employed underground to see that the equipment specified in this Regulation is kept in good order, and that it is replenished when necessary.

A proper motor-ambulance service is required so that a sufficient number of motor ambulances with drivers are in constant readiness and stationed at a base not more than ten miles by road from the mine, unless other arrangements are sanctioned by the Divisional Inspector of Mines (*see page 272*).

Where the cage by means of which injured persons are raised from underground does not allow of a stretcher being laid flat, or where a cage is not used, and at every sinking pit, a suitable jacket or attachment to

minimise discomfort and prevent aggravation of an injury shall be provided. The accommodation, equipment and material, and the working of the organisation for first-aid and ambulance work are to be inspected every six months by the manager or a qualified person appointed by him, and if any defects are found they are to be remedied forthwith.

Material which is lost from, or damage which occurs to, first-aid material is considered to be due to the neglect of the person in charge of it unless he proves that the loss or damage was due to no fault of his own and that notice was immediately given about it to some responsible official.

The Railways Acts.—The Minister of Transport has power to interfere if hours of work are too long or if intervals of rest are insufficient or if relief is not arranged for Sundays. A schedule of hours is required from the Companies. Accidents, fatal or otherwise, have to be notified to the Ministry of Transport. Standard Regulations governing eyesight tests for Railway Servants are laid down, however, by the Board of Trade.

The Merchant Shipping Acts.—Practically nothing concerning the health of those employed is contained in these Acts except Public Health measures dealing with matters such as quarantine.

The Metalliferous Mines Regulations Act 1872.—The first eighteen sections of this Act deal with the employment of women, young persons and children. Broadly, women must not be employed underground and no young person under the age of sixteen. Cloak-room accommodation is prescribed, and the procedure in case of accidents is detailed.

The Quarries Act 1894.—The Quarries Act of 1894 applies to every place (not being a mine) in which persons work in getting slate, stone, coprolites or other minerals and any part of which is more than twenty feet deep. The Inspectors under the Metalliferous Mines Regulations Acts 1872 and 1875 are also Inspectors under the Quarries Act. There is very little concerning welfare in this Act, and indeed the only medical regulation is that a first-aid box shall be provided in which is a copy of Form M. & Q. No. 99, giving instructions for the first-aid treatment of minor injuries. The instructions state that "All cases of injury, however unimportant, should whenever possible, be attended to by a Qualified First Aid Man" . . . but goes on "If, however, a qualified first aid man is not at hand, or if to send for him would cause delay, the treatment recommended below may be carried out." Instruction is then given for the treatment of (1) scratches or slight wounds, (2) burns or scalds, (3) foreign bodies in the eye. It is emphasised that in all cases of severe injury, a doctor should be sent for at once.

The first-aid boxes are to be stocked according to the Regulations for those in coal mines, and reference should be made to page 300, where a note of these contents is given.

Transport Act 1930.—Drivers of motor vehicles are not allowed to drive for any continuous period of more than five and a half hours or for continuous periods amounting in the aggregate to more than eleven hours in any period of

twenty-four hours, so that at least ten consecutive hours for rest are allowed in any period of twenty-four hours.

National Insurance (Industrial Injuries) Act 1946.—This Act has taken the place of the Workmen's Compensation Act and came into force in July 1948. The fundamental difference between the two Acts is that, whereas the older Act placed the responsibility for payment of compensation on the employer, the newer Act provides for payment as a part of a social insurance to the funds of which both employer and employee contribute. The benefits to be given under the National Insurance (Industrial Injuries) Act 1946 will be assessed in an entirely different manner to those payable under the Workmen's Compensation Act 1925, and will bear no relation to the amount of the workman's earnings, thus:

"Injury Benefit" is to be paid in respect of any day on which the worker was incapable of work during the injury benefit period which is one hundred and fifty-six days excluding Sundays from the day of accident.

"Disablement Benefit" is payable if an insured person has

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| (a) permanent loss of physical or mental faculty; | } amounting to not less
than 20 per cent. |
| (b) substantial loss of physical or mental faculty. | |

In making the assessment, all disabilities are to be taken into account, the criterion being a person of the same age and sex whose physical and mental conditions are normal. Previously existing disease or congenital defects are also to be considered, and "loss of personableness" is to be regarded as loss of physical faculty.

If the degree of disablement is assessed at less than 20 per cent., a "disablement gratuity" is paid which must not exceed £100 and may be paid in instalments. If, on the other hand, the degree of disablement is assessed at more than 20 per cent., a "disablement pension" is paid for the period of time during which the claimant has suffered and may be expected to suffer. A "disablement pension" may be awarded on a provisional assessment which, of course, is subject to review.

The weekly rate of a disablement pension shall be increased by twenty shillings, if, as the result of the relevant loss of faculty, the beneficiary is incapable of work and likely to remain permanently so incapable.

Provided that, for any period during which the beneficiary is under the age of eighteen and not for the time being entitled under the following provisions of this Act to an increase of the pension in respect of a child or adult dependant, the increase under this section shall be ten shillings.

The weekly rate of injury benefit shall be increased by sixteen shillings for any period during which:

- (a) the beneficiary is residing with or is wholly or mainly maintaining his wife;
- (b) the beneficiary is wholly or mainly maintaining her husband who is incapable of self support;
- (c) the beneficiary has residing with him and is wholly or mainly maintaining any such other relative as may be prescribed, being a relative in relation to whom such further conditions as may be prescribed are fulfilled; or
- (d) some female person (not being a child) has the care of a child or children of

the beneficiary's family, or of a child or children treated as such for the purposes of the last foregoing section, being a person in relation to whom such further conditions as may be prescribed are fulfilled.

If a person is permanently incapacitated, an increase of £1 per week may be made; if he is totally disabled and requires constant attendance, an allowance up to a further £1 per week may be given, provided the insured person is not an in-patient in hospital. If a worker is incapable of following his own employment or equivalent, he is allowed an extra 11s. 3d. per week.

The assessment of the degree of disability present is to be made by a medical board appointed by the Minister which is to consist of not less than two members, of whom one is to act as chairman. The Minister may arrange that any medical board appointed by any Government Department may act as a medical board under the Act.

If a claimant consents, a single practitioner may be appointed to decide on cases of "temporary assessment" which shall be made for a period not longer than three months, although there is power to make regulations concerning this matter. If a claimant or the Ministry is not satisfied with the assessment, whether decided by a Board or by a single practitioner, the case may be taken to a Medical Appeal Tribunal which is appointed by the Minister and consists of a chairman and two other doctors.

If fresh circumstances arise by reason of which substantial injustice is likely to occur, decisions may be reviewed, but only by permission of the Medical Appeal Tribunal, if a permanent assessment was made less than five years previously or a provisional assessment less than six months before.

Regulations may provide that a medical practitioner may be called upon to examine and report on any question arising for decision by the Minister or Medical Appeal Tribunal.

Medical questions are decided in the manner already indicated, but the Act also contains provision for the appointment of an Industrial Injuries Commissioner to deal with the legal aspects of appeals, as well as a Local Appeals Tribunal composed of equal numbers of employers and insured persons sitting under an independent chairman. Regulations are envisaged in this connection to allow of the appointment of a medical practitioner as assessor to Local Appeals Tribunals.

Claims are to be made to an official entitled the Insurance Officer, who has the responsibility of accepting or rejecting them, although he can refer a claim if he wishes to the Local Appeal Tribunal, to which usually the claimant can also appeal if dissatisfied. In most circumstances, a case can be taken to the Commissioner by either party within a time limit of three months.

An insured person can ask for a declaration as to whether an accident was an industrial accident even if he makes no claim, but the Tribunal may refuse to give such a declaration if it is not necessary to a claim.

An employer is required to take reasonable steps to investigate any accident

notified to him in writing by an employee, or person acting for him, as having risen during the employment. If the employer is unable to reconcile the notice with the facts as found by him, he must record the circumstances so found.

An employer must furnish within a reasonable time information called for by any officer of the Ministry of National Insurance regarding:

- (a) any accident or alleged accident for which benefit may be payable to, or in respect of the death of, an employee.
- (b) the nature and circumstances of employment of anyone found or claiming to be suffering from or to have died from an industrial disease.

An owner or the occupier (being an employer) of any mine or premises to which any of the provisions of the Factories Act 1937 and/or 1948, apply, and every employer by whom ten or more persons are normally employed at the same time on or about the same premises in connection with the employer's trade or business, is required to keep readily accessible an accident book in the form approved by the Minister.

The purpose of this arrangement is to facilitate the giving of notice of accidents by injured persons, and an entry in the book by an injured person or by someone acting on his behalf is to be regarded as sufficient notice to the employer of the accident for the purposes of the Industrial Injuries (Claims and Payments) Regulations 1948. If notice is given by letter or otherwise than by an entry in the accident book, it should give the same particulars as are provided for by the headings of the accident book, i.e.:

- (a) the full name, address and occupation of the injured person;
- (b) the date and time of the accident;
- (c) the place where the accident happened;
- (d) the cause and nature of the injury;
- (e) the name, address and occupation of the person giving the notice, if other than the injured person.

Insured Persons are also required to carry out the instructions of the medical practitioner attending them and to conform to any other rules of behaviour which may be laid down.

Where an accident book in the form prescribed under the Workmen's Compensation Acts is kept by an employer, it is not necessary to obtain a book of the new kind until the existing book is completed. All accident books must be preserved for one year from the date of the last entry.

The insured person on his part must submit himself to medical examination or assessment as required and he must also submit to appropriate medical treatment. He must also attend a vocational training or rehabilitation course if considered necessary for his recovery.

Diseases due to occupation are called "prescribed diseases" and are defined as those in which the cause, incidence or any other circumstances can be considered as a risk of the employee's occupation and not as a risk common to everyone. Even in the absence of special circumstances, diseases which can

be established or even presumed with reasonable certainty to be due to the nature of the work done can be regarded as "prescribed diseases." The prescribed diseases at present are as indicated below:

List of Prescribed Diseases (excluding Pneumoconiosis and Byssinosis)

<i>Poisoning by:</i>	<i>Any occupation involving:</i>
1. Lead	The use or handling of, or exposure to the fumes, dust or vapour of, lead or a compound of lead, or a substance containing lead.
2. Manganese	The use or handling of, or exposure to the fumes, dust or vapour of, manganese or a compound of manganese, or a substance containing manganese.
3. Phosphorus	The use or handling of, or exposure to the fumes, dust or vapour of, phosphorus or a compound of phosphorus, or a substance containing phosphorus.
4. Arsenic	The use or handling of, or exposure to the fumes, dust or vapour of, arsenic or a compound of arsenic, or a substance containing arsenic.
5. Mercury	The use or handling of, or exposure to the fumes, dust or vapour of, mercury or a compound of mercury or a substance containing mercury.
6. Carbon bisulphide	The use or handling of, or exposure to the fumes or vapour of, carbon bisulphide or a compound of carbon bisulphide, or a substance containing carbon bisulphide.
7. Benzene or a homologue	The use or handling of, or exposure to the fumes of, or vapour containing, benzene or any of its homologues.
8. A nitro- or amido-derivative of benzene or of a homologue of benzene	The use or handling of, or exposure to the fumes of, or vapour containing, a nitro- or amido-derivative of benzene or of a homologue of benzene.
9. Dinitrophenol or a homologue	The use or handling of, or exposure to the fumes of, or vapour containing, dinitrophenol or any of its homologues.
10. Tetrachlorethane	The use or handling of, or exposure to the fumes of, or vapour containing, tetrachlorethane.
11. Tri-cresyl phosphate	The use or handling of, or exposure to the fumes of, or vapour containing, tri-cresyl phosphate.
12. Tri-phenyl phosphate	The use or handling of, or exposure to the fumes of, or dust vapour containing, tri-phenyl phosphate.
13. Diethylene dioxide (dioxan)	The use or handling of, or exposure to the fumes of, or vapour containing, diethylene dioxide (dioxan).
14. Methyl bromide	The use or handling of, or exposure to the fumes of, or vapour containing, methyl bromide.
15. Chlorinated naphthalene (excluding the condition known as chlor-acne)	The use or handling of, or exposure to the fumes of, or dust or vapour containing, chlorinated naphthalene.
16. Nickel carbonyl	Exposure to nickel carbonyl gas.
17. Nitrous fumes	The use or handling of nitric acid or exposure to nitrous fumes.
18. Gonioma Kamassi (Afri-can boxwood)	The manipulation of Gonioma Kamassi or any process in or incidental to the manufacture of articles therefrom.
19. Anthrax	The handling of wool, hair, bristles, hides or skins or other animal products or residues, or contact with animals infected with anthrax.

20. Glanders Contact with equine animals or their carcasses.
21. Infection by *Leptospira icterohæmorrhagiae* Work in rat-infested places.
22. Ankylostomiasis Work in or about a mine.
23. (a) Ulceration of the corneal surface of the eye
 (b) localised new growth of the skin, papillomatous or keratotic
 (c) epitheliomatous cancer or ulceration of the skin,
 due in any case to tar, pitch, bitumen, mineral oil (including paraffin), soot or any compound, product, or residue of any of these substances
) The use or handling of, or exposure to, tar, pitch, bitumen, mineral oil (including paraffin), soot or any compound, product, or residue of any of these substances.
24. (a) Chrome ulceration
 (b) Inflammation or ulceration of the skin or of the mucous membrane of the upper respiratory passages or mouth passages produced by dust, liquid, etc., or vapour (including the condition known as chlor-acne but excluding chrome ulceration)
) The use or handling of chromic acid, chromate or bichromate of ammonium, potassium, sodium or zinc, or any preparation or solution containing any of these substances. Exposure to dust, liquid or vapour.
25. Inflammation, ulceration or malignant disease of the skin or subcutaneous tissues or of the bones, leukaemia, or anaemia of the aplastic type, due to X-rays, ionising particles, radium or other radioactive substance; or inflammation of the skin due to other forms of radiant energy Exposure to X-rays, ionising particles, radium or other radioactive substance or other forms of radiant energy.
26. Cataract produced by exposure to the glare of, or rays from, molten glass or molten or red-hot metal Frequent or prolonged exposure to the glare of, or rays from, molten glass or molten or red-hot metal.

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| 27. Compressed-air illness . | Subjection to compressed air. |
| 28. Telegraphist's Cramp . | The use of morse key telegraphic instruments for prolonged periods. |
| 29. Writer's Cramp . | Hand-writing for prolonged periods. |
| 30. Twister's Cramp . | The twisting of cotton or woollen (including worsted) yarn. |
| 31. Subcutaneous cellulitis of the hand (Beat hand) | Manual labour causing severe or prolonged friction or pressure on the hand. |
| 32. Subcutaneous cellulitis or acute bursitis arising at or about the knee (Beat knee) | Manual labour causing severe or prolonged friction or pressure at or about the knee |
| 33. Subcutaneous cellulitis or acute bursitis arising at or about the elbow (Beat elbow) | Manual labour causing severe or prolonged friction or pressure at or about the elbow |
| 34. Inflammation of the synovial lining of the wrist joint and tendon sheaths | Manual labour, or frequent or repeated movements of the hand or wrist |
| 35. Miner's asthma | Work in or about a mine |

As in the Workmen's Compensation Act 1925, the right to benefit from a disease which is a personal injury by accident is established. The benefit and the procedure for obtaining it are the same in respect of disease as of accident, but regulations may lay down what diseases are to be attributed to occupation and a specified duration of employment may also be required. Medical Boards appointed under the Act will undertake, in addition to the assessment of injury, the assessment for certain kinds of disease, and provision is also made by the Act for payment of members of these Boards. Tuberculosis associated with pneumoconiosis is regarded as being due to the pneumoconiosis. Medical examination of those engaged in occupations in which pneumoconiosis is a prescribed disease may be required at entry, and may periodic routine re-examinations. Power is given to suspend workers suffering from pneumoconiosis or tuberculosis from employment in prescribed occupations, or, if found unsuitable on pre-employment examination, to prohibit such persons from engaging in work in such prescribed occupations.

A clause also provides that no benefit is payable if a worker will not submit himself to examination as required. Employers must provide facilities for examination and must not employ a person suspended from work by a Medical Board, or who has not been examined before entering employment in a prescribed occupation. Notice must be given when a prescribed industry is begun. Benefit for byssinosis is only payable to men who are totally incapacitated. Pneumoconiosis is defined as meaning fibrosis of the lung due to asbestos, silica or other dust.

Silicosis, asbestosis and coal-miners' pneumoconiosis, as well as byssinosis are dealt with under special schemes, similar to those established under the

Workmen's Compensation Act, namely:

The Metal Grinding Industries (Silicosis) Scheme 1931.

The Various Industries (Silicosis) Scheme 1931.

The Asbestos Industries (Asbestosis) Scheme 1931.

The Refractories Industries (Silicosis) Scheme 1931.

The Sand Stone Industries (Silicosis) Scheme 1931.

The Coal Mining Industry (Pneumoconiosis) Compensation Scheme 1943.

The Pneumoconiosis (Benefits) Scheme 1943.

Broadly, it is necessary for every newly engaged workman in these industries to submit himself for medical examination by the Silicosis Medical Board, unless he has been examined under a scheme during the previous twelve months.

Claims for compensation for silicosis, asbestosis and pneumoconiosis are also dealt with by the Silicosis Medical Board, which can reject a claim, or certify partial or total disablement. The decision of the Board is final and there is no appeal from it; moreover, those in respect of whom certificates are issued are required to undergo a periodic re-examination, which may include radiography of the lungs, as does the examination carried out in the first instance.

Workmen claiming to be suffering from silicosis, asbestosis or some other form of pneumoconiosis are submitted to X-ray of the chest and examination by a Board of two or three doctors with special experience of these conditions.

In order to make a claim the workman must have been employed at some time since July 4th, 1948, in one of the occupations given in the Ministry's official leaflet N. 13.

The benefits for these conditions vary according to the amount of disablement, the basic rate being 45s. per week for 100 per cent. disablement, and proportional amounts down to 4s. 6d. per week for a 10 per cent. disablement.

In certain processes in the refractories, sandstone, asbestos and pottery industries, it has been the practice, under the Workmen's Compensation Acts, to have initial and periodical medical examinations. These will be continued under the National Insurance (Industrial Injuries) Act. A worker who is found on examination to be suffering from tuberculosis or pneumoconiosis may be suspended. If he has pneumoconiosis, he will be advised to make a claim for disablement benefit at a local National Insurance Office.

Provision is made for the setting up of an Industrial Injuries Advisory Council. The Minister may make arrangements in order to ensure that those entitled to disablement benefit take full advantage of vocational training, rehabilitation and sheltered employment provided under the Disabled

Persons' Act. Any fees required for this purpose may be paid on behalf of the Insured Person.

Artificial limbs can be provided free or at a reduced cost for those needing them. Compensation under the Workmen's Compensation Acts must continue to be paid for cases occurring before the "appointed day."

It should be specially noted that claims at Common Law by workers in receipt of benefit under the Act are permitted and for that reason if for no other all statutory requirements must be rigidly enforced. It should also be remembered that the doctrine of common employment is no longer valid and that is an additional reason for care on the part of the employer who must make sure that his workers are properly trained and understand their duties.

Disabled Persons' Employment Act.—"Disabled person" means a person who on account of injury, disease or congenital deformity is substantially handicapped in obtaining or keeping employment or in undertaking work on his own account of a kind which apart from that injury, disease or deformity would be suited to his age, experience and qualifications. Disease includes a physical or mental condition arising from the imperfect development of any organ.

Vocational training courses can be provided by the Minister or by others, for the training of Disabled Persons not under the age of eighteen. Payments may be made to persons attending such courses which include travelling expenses but are not necessarily limited to them. The expenses of courses are to be met by the Minister. The Act provides for a Register of Disabled Persons to be established, to which persons suffering from an obvious disability likely to last at least six months are automatically admitted. If there is doubt in the case, the matter is referred to the District Advisory Committee which, with the help of its specially appointed medical member, makes recommendations to the Minister. Under the Act a National Advisory Council consisting of thirty members has been appointed.

Pensioners of the 1914-18 war are in general admitted to the Register, but if doubt should arise in any case, the matter is referred to the Minister of Pensions or the Minister of War Transport. Certain people are disqualified from admission to the Register—namely, those under the school-leaving age, those not ordinarily resident in Great Britain (unless they served during the war in the Armed Forces), those failing to attend a Vocation or Training or Rehabilitation Course if recommended to do so, and habitual bad characters.

The name of a registered Disabled Person is to be retained on the Register for as long as may be decided by the Minister, except in the case of pensioners of the 1914-18 war who remain on the Register as long as they are entitled to a pension. The names of Pensioners of the 1914-18 war whose pensions are discontinued can be retained on the Register long enough for them to have an opportunity to apply for re-registration. Persons whose term of

disablement is drawing to a close can re-register (if accepted) before expiry date. Employers of more than twenty persons must give employment to the required quota of Disabled Persons or allot vacancies for them as they occur. No person other than a Disabled Person must be engaged if by so doing the quota is not filled. An exception is made in the case of a person whom the employer is obliged to take back into his service, e.g. a returning ex-Service man, and in cases in respect of which a special permit has been obtained from the Ministry. An employer must not dismiss a Disabled Person, unless he has reasonable cause, if by so doing the number of Disabled Persons employed would fall below the quota or which would reduce the number of those employed to less than twenty. It is laid down that prosecution will not be carried out without previous reference to the District Advisory Committee who report on the matter to the Minister after having heard the Employer's side of the case. The employer's quota is determined on a standard percentage applicable to all Industry (at present 3 per cent.), and on a special percentage which is higher or lower as the case may be in certain trades or branches of Industry.

By designated employment is meant certain types of work which are reserved for Disabled Persons only. When a vacancy occurs in these occupations, the position must be filled by a Disabled Person. Such persons do not count towards the employer's quota. If the employer considers that he cannot conform to these requirements, he can make application to the District Committee for special consideration. If his application is supported, then either the standard or the special percentage can be reduced for a period not longer than twelve months in duration.

If no suitable Disabled Person is available, an employer can apply to the Minister for a permit to employ an able-bodied person, but such a permit may have conditions attached to it. If a permit is refused, the employer can take the matter to the District Advisory Committee. Records of the Disabled Persons necessary to complete the employer's quota, and, in addition, of the Disabled Persons engaged in designated employment are to be kept by employers. Such records will be regarded as sufficient if the names of Disabled Persons are specially indicated in the ordinary Wages Book. Sheltered employment or work on their own account under special conditions can be provided for those registered persons who are too seriously disabled to compete in the normal labour market.

CHAPTER II

INDUSTRIAL HYGIENE

By W. J. S. Graham

HISTORICAL REVIEW

FACTORY legislation first appeared on the Statute Books in 1802 when the Health and Morals of Apprentices Act was passed. From then on, many Acts have been passed culminating with the sixteenth Factories Act of 1948.

Throughout, stress has been placed on the health side, and the original Acts stated that work-rooms were to be limewashed twice a year. A proper supply of fresh air had to be ensured by the provision of a sufficient number of windows in the work-rooms, hours were to be shortened, suitable clothing provided to the apprentices, and where infectious diseases were noticed the employer could be required to call in medical assistance. These Regulations only applied to apprentices, and their consequent limitation was considerable. However limited their application might have been, their effectiveness was considerably smaller, probably due to the fact that there was no proper or effective system of inspection.

The subsequent Acts of 1833 and 1844 made no important changes in the Health Regulations, although the system of inspection was improved.

The 1833 Act did not mention ventilation at all, but one of the early Inspectors observed that "the air in many mills is in a very offensive state" and he suggested that the Regulations should be amended. However, a number of years passed before anything was done to improve either ventilation or sanitation.

In 1864, as a result of medical pressure, the Factories Acts Extension Act was passed which scheduled certain trades as unhealthy, and required every factory to which the Act applied to be ventilated so as to render harmless, so far as was practicable, any dust, gases or other impurities generated in the process or manufacture, that might be injurious to health.

Overcrowding was still, however, prevalent, and it was not until 1895 that a minimum space of 250 cubic feet per person was laid down as a legal requirement. This figure stood until 1937, when it was raised to 400 cubic feet per person. Certain trades had, however, been required to provide considerably more than the 400 cubic feet for many years.

It was early realised that air space does not of itself mean ventilation; it is only a necessary provision which renders ventilation possible. The Factory Department recommend that there should be approximately four changes per hour, i.e. 1,700 cubic feet of fresh air per person per hour.

The Factories Act of 1895 required that in every factory or workshop adequate measures should be taken for securing and maintaining a reasonable temperature. Although nearly a century had elapsed since the first factory legislation had been passed, even at this late period no minimum temperature was specified and considerable difficulty was found by the Factory Inspectors when they attempted to enforce the provisions of the section of the 1895 Act. Subsequently, the 1901 Factory and Workshop Act attempted to improve the previous legislation by stating that "in every factory and workshop, adequate measures must be taken for securing and maintaining a reasonable temperature in each room in which any person is employed; but the measures so taken must not interfere with the purity of the air of any room in which any person is employed." The reason for the last portion of this regulation was that one Factory Inspector had found that through the constant burning of naked gas jets to warm the room the air had become foul and unwholesome, and when a prosecution was proceeded with, the magistrates dismissed the case on the grounds that the 1895 Act only required a reasonable temperature and not one which was wholesome.

Except in the case of the cotton-cloth industry, legislation which specified what a reasonable temperature was did not appear until the Act of 1937 was passed. This stated that a temperature of 60° F. had to be maintained after the first hour in all work-rooms in which a substantial proportion of the work was done sitting and did not involve serious physical effort.

Little provision was made as regards lighting until the 1937 Act which enabled the Secretary of State to make Regulations setting forth the minimum standards of lighting for factories.

Although the Act of 1802 required walls of certain factories to be lime-washed twice per annum, this period has been reduced as time progressed. Other methods have since been evolved for keeping walls clean and Factories Acts have been amended accordingly.

The Act now requires the removal of dirt and refuse daily and the cleaning of work-room floors at least once in every week. Similarly, sanitary conveniences did not appear in legislation until the close of the nineteenth century, and even then the standard was low. One of the troubles that arose was that the 1895 Act did not apply to all factories, but only to those in which the Public Health Acts did not apply. This caused considerable confusion, as the several authorities involved all made their own standards.

In 1937, the new Factories Act was applied to the whole of the country as regards sanitary conveniences, and it was thus possible to introduce a uniform standard.

Although nowadays new Factory Acts are not introduced at such frequent intervals, the Secretary of State has considerable powers under the 1937 Act and certain of the earlier Acts which enable him to bring in Regulations which deal with any special dangers or improvements which are necessary for the safety, health or welfare of employees in industry. These Regulations

brief details of which are published in the *Ministry of Labour Gazette*, have the same effect as a re-drafting of a particular section of the Act, and by this means it is possible for the Minister to keep the majority of the Act up to date, notwithstanding changes in methods of production during the years which have elapsed since its passing.

It will be realised from the short summary that has been given above that Industrial Legislation does tend to lag behind progressive welfare knowledge, and the lead for new legislation is generally taken from the practice of the more progressive industrial companies. In this respect, one can draw attention to the fact that, at the present moment, legislation does not, except in a few cases, specify what is "adequate" for washing facilities. Here, however, progressive firms have laid down their own standards, and it is probable that if the standards mentioned later are adhered to, it will be found that they will remain in advance of any new legislative requirements for many years to come. This apparent slowness on the part of the central Government is understandable when one realises that the Factories Acts requirements are merely minimum standards. They are laid down to cater for those who have done little, if anything, as well as for those who have progressed far as regards industrial welfare for many decades.

It is rare to find that the welfare facilities required in order to comply with the Act are onerous. At times they may appear to be difficult because of the fact that certain employees seem to delight in destroying any equipment provided. This regrettable tendency is, to say the least, very disconcerting and hampers the efforts of the Welfare Officer when he applies to his Management for further facilities. It must be realised, however, that in very many cases little provision has been made until recent years for any real welfare facilities and, therefore, a long time will necessarily elapse before all employees treat them with proper respect.

What can be done to overcome this tendency to misuse, deface or destroy facilities provided? Firstly, the Act (under section 119) does allow the Occupier to proceed against any person who misuses any appliance, convenience, etc., provided in pursuance of the Act for securing the health, welfare or safety of the persons employed in the factory.

It should be noted that the Act merely provides that a person can be prosecuted who wilfully destroys or interferes with any appliance, etc., which has been provided in accordance with the Act and, therefore, any welfare facility which is additional to the Act's requirements is not given this measure of protection.

Secondly, and definitely more effective, is the use of continuous propaganda. In this respect it is advisable to draw the attention of the better-minded employee to the facilities which have been damaged or misused and enlist his aid in attempting to prevent further abuses.

Thirdly, when the installation of new facilities is being considered, every attempt must be made to purchase or install unbreakable and pilfer-proof

articles. An instance of this is the liquid-soap distributor which is often stolen or emptied when soap is in short supply. It must be admitted that these, even with supposedly "pilfer-proof" fittings, do not require great ingenuity to detach completely from their holders or to empty, and therefore consideration should be given to an alternative method of distribution. An instance of such an alternative method is a lather valve distributor with the soap container kept locked and bolted to the wall. (*See Washing Facilities Section.*)

Fourthly, any fitting installed should be of a type which requires the minimum of work to keep it clean and serviceable.

With these points in mind, the modern Welfare Officer can plan his facilities. It is then his responsibility (a) to see that they are used for the purpose for which they were intended and (b) that they are treated with respect. He will ultimately find that his workers will be able to enter the works wearing clothes similar to the office workers, they will be able to change into their working clothes and when they leave their work at the end of the day or shift they will again be able to change and present an appearance, from the cleanliness and clothing angle, which corresponds with that of the "black-coated worker."

If he succeeds in this object he will probably break down some of the objection which appears to exist in the selection of manual work for the younger generation.

The work of such pioneer societies as the Industrial Welfare Society and the Institute of Personnel Management has led to the adoption of increased welfare facilities in industry. It is recommended that employers should join the Industrial Welfare Society, which is a company organisation rather than an individual membership society. Personnel or Welfare Officers can apply for membership of the Institute of Personnel Management or the Institute of Welfare.

SITING OF WELFARE BUILDING

The layout of the welfare facilities in the factory is a subject which calls for considerable comment. It is impossible to state what is the "ideal" scheme, because with each separate works it may be necessary to evolve a layout which is suitable for that works and that works alone. Without doubt, one of the best schemes is one which provides a central "block" at the entrance to the works, which enables employees to leave their street clothes in a locker, don their working clothes and proceed straight to the job. In this central block there would be the necessary washing and cloakroom facilities and it would be an easy matter to ensure that all these facilities were kept in a clean and hygienic state by the employment of one or more male or female janitors according to the amount of facilities provided.

Unfortunately, in many works the plants are scattered over a wide area

or in a multi-floor building, which necessitates either several or a large number of welfare buildings. It cannot be expected that an employee will be prepared to walk a hundred yards in his working clothes in inclement weather. From the health angle, should a person be expected to leave a hot building such as a furnace plant and then walk in a chilly atmosphere scantily clad? In circumstances such as these, it will be necessary to provide individual facilities such as locker and ablution rooms and lavatory accommodation at various points.

Where this is to be done, every effort should be made to reach a standard ratio of numbers of personnel to each welfare "unit," e.g. facilities should be allowed for each seventy-five or one hundred persons in every block. (Where possible, the number of personnel should be increased.) The reason is that it is most uneconomical to have a large number of small welfare blocks catering for five to thirty people, as they are both costly in the original capital outlay and in their maintenance and upkeep.

Where this system of "satellite" welfare blocks is adopted, it is essential that their maintenance should come under a single control as it is easy for one person to lay down a standard of cleanliness for all the buildings, but it is most difficult if each of these blocks is the responsibility of an individual plant manager. To elaborate this point—if the standard as a whole is unsatisfactory, it would only be necessary to deal with one person, but where, as often happens, there are possibly upwards of twenty welfare blocks, each the responsibility of a separate plant manager, the variations observed are considerable.

Good natural lighting with as many windows as possible is the ideal which should be aimed for in the preliminary design of the block, with a minimum of six foot-candles for artificial lighting.

With these as a start, the building will achieve an air of cleanliness which cannot be obtained with poor lighting, however much effort is devoted to the upkeep of the building. It is necessary to labour this point, for unless the original design is correct, it is impossible to ensure any improvement during the life of the building.

The height of rooms should be from 9 to 12 feet with the lower 5 feet of the wall finished in terrazzo, in panels or *in situ* glazed bricks or tiles. It is desirable to use a finish of a colour other than white, to get away from the institution or hospital atmosphere.

Where capital outlay is not limited, it is a good plan to continue the tiling to the ceiling as it is considerably easier to maintain and painting costs are eliminated, but it must be remembered that once the colour scheme has been decided upon, it cannot be altered.

There should be a fall in the floor in all rooms which are being washed out at frequent intervals, of 2 to 3 inches in every 10 feet, towards the drain.

The floor surface can be concrete, granolithic, or covered with bitumen, asphalt, linoleum or rubber.

The horizontal and vertical angles of all walls should be curved at floor-level so as to permit of easier cleaning.

An even temperature should be maintained, between 60 and 65° F.

CLEANLINESS OF THE FACTORY

FACTORIES ACT, 1937. Section 1.

The Act requires that:

"Every factory shall be kept in a clean state, and free from effluvia arising from any drain, sanitary convenience or nuisance, and without prejudice to the generality of the foregoing provision

"(a) accumulations of dirt and refuse shall be removed daily by a suitable method from the floors and benches of work-rooms, and from the staircases and passages;

"(b) the floor of every work-room shall be cleaned at least once in every week by washing or, if it is effective and suitable, by sweeping or other method;

"(c) all inside walls and partitions and all ceilings or tops of rooms, and all walls, sides and tops of passages and staircases shall—

"i. where they have a smooth impervious surface, at least once in every period of fourteen months be washed with hot water and soap or other suitable detergent or cleaned by such other method as may be approved by the inspector of the district;

"ii. where they are kept painted with oil paint or varnished, be repaired or revarnished at least once in every period of seven years, and at least once in every period of fourteen months be washed with hot water and soap or other suitable detergent or cleaned by such method as may be approved by the inspector of the district;

"iii. in other cases be kept whitewashed or colour-washed, and the whitewashing or colour-washing shall be repeated at least once in every period of fourteen months;

"Provided that—

"i. except where the inspector for the district in any case otherwise requires, the provisions of paragraph (c) of this section shall not apply to any factory where mechanical power is not used and less than ten persons are employed; and

"ii. where it appears to the Secretary of State that in any class or description of factory or parts thereof any of the foregoing provisions of this section are not required for the purpose of keeping the factory in a clean state, or are by reason of special circumstances inappropriate or inadequate for such purpose, he may, if he thinks fit, by order direct that those provisions shall not apply to factories, or parts of factories, of that class or description or shall apply as varied by the order."

The first phrase of section 1 is an absolute requirement that every factory shall be kept in a clean state, and although certain of the following subsections specify definite requirements as to the frequency with which certain operations of cleaning shall be carried out, they do not minimise the force of the opening phrase.

For instance, subsection (b) requires that the floor of every work-room shall be cleaned *at least once in every week* by washing or some other suitable method. It is quite possible to visualise a factory being in an unclean state although the provisions of subsection (b) are carried out correctly.

Subsection (a) requires the removal of all accumulations of dirt and refuse, and it is held that refuse includes portions of the material which has been discarded during the process it was undergoing in the work-room. The

method of removal is left to the Occupier, and in this connection the use of vacuum cleaners is of considerable importance. One of the troubles which arise with sweeping is that dirt is swept from one place and deposited in another. The very act of sweeping causes a dust which settles down as soon as the sweeper has passed.

Vacuum systems can be of a permanent installation or of a portable type. Where there is a considerable amount of dust and dirt which has to be collected, a fixed installation is preferable as it can handle a much larger volume of material than the portable one. The disadvantages that occur with a fixed installation are due to the long lengths of rubber hose that are required and the capital outlay involved. The portable installation has great flexibility and will handle a considerable amount of refuse. With the various attachments that can be fitted to the hose-pipe it is possible to reach ledges and girders which would normally not be swept by the plant cleaners.

Subsection (c) allows for varying cleansing treatments dependent on the surface of the walls or partitions, etc.

(1) It allows for them to be cleaned by washing or other suitable method as may be approved by the Inspector of the District.

(2) Where they are painted with oil or varnish they still have to be washed or cleaned once in every fourteen months and repainted or revarnished once in every seven years, and there is a third type of finish—whitewashing or colour-washing—which has to be repeated at least once in every period of fourteen months. Details of compliance with these three provisions have to be entered in the General Register, together with the type of paint used and the name and makers of the paint.

In connection with proviso (i), it should be pointed out that if, for example, a unit heater was used and this was the only form of mechanical power in the factory, it would not necessarily make it a factory where mechanical power is used.

An Order has been made under the Act and it is known as the Factories (Cleanliness of Walls and Ceilings) Order, 1938 (S. R. & O. 1938, No. 487). This S. R. & O. should be most carefully studied, as it is not, as may at first seem, a complete exemption for the named factories from the requirements of paragraph (c) (i) of the Act. This is, in fact, obvious, because the S. R. & O. says that paragraph (c) shall continue to apply:

"(i) as respects factories or parts of factories specified in Part A of the said Schedule, to work-rooms in which the amount of cubic space allowed for every person employed in the room is less than 500 cubic feet;

"(ii) as respects factories or parts of factories specified in Part B of the said Schedule, to work-rooms in which the amount of cubic space allowed for every person employed in the room is less than 2,500 cubic feet;

"(iii) to engine-houses, fitting shops, messrooms, cloakrooms, lavatories, and sanitary conveniences; and

"(iv) to such parts of walls, sides and tops of passages and staircases as are less than 10 feet above the floor or ground."

In other words, it is not possible for exemption to be claimed for all work-rooms in, for example, a brick and tile works, but only for those work-rooms in which the allowance of cubic space per person employed is 500 cubic feet or more.

Therefore, it may mean that certain work-rooms, although normally exempted because of their size, require cleaning of the walls, etc., in accordance with section 1 of the Act. Furthermore, lavatories, sanitary conveniences, mess-rooms, cloakrooms, etc., are not excluded.

The listed exemptions are as follows:

" PART A

- " Blast furnaces.
- Iron mills.
- Copper mills.
- Stone, slate and marble works.
- Brick and tile works in which unglazed bricks or tiles are made.
- Cement works.
- Chemical works.
- Gas works.

" The following parts of factories:

- " Rooms used for the storage of articles in which no process is regularly carried on.
- " Parts in which dense steam is continuously evolved in the process.
- " Parts in which pitch, tar, or like material is manufactured or is used to a substantial extent, except in a brush works.
- " The part of a glass factory known as the glass house.
- " Rooms in which graphite is manufactured or is used to a substantial extent in any process.
- " Parts in which coal, coke, oxide or iron, ochre, lime or stone is crushed or ground.
- " Parts of walls, partitions, ceilings, or tops of rooms which are at least 20 feet above the floor.
- " Ceilings or tops of rooms in print works, bleach works, or dye works, with the exception of finishing rooms or warehouses.

" PART B

- " Shipbuilding works.
- Gun factories.
- Engineering works.
- Electric generating or transforming stations.
- Frame dressing rooms of lace factories.
- Foundries other than foundries in which brass casting is carried on.
- Factories in which sugar is refined or manufactured.
- Coach and motor body works.
- Those parts of factories where unpainted or unvarnished wood is manufactured."

The Factories (Cleanliness of Walls and Ceilings) (Amendment) Order, 1948, S. R. & O. 1674, has as from the 1st August 1948 narrowed the scope of the above exemption as regards iron foundries. This Order reads " as though

in Part B of the First Schedule thereto there were substituted for the words 'foundries other than foundries in which brass casting is carried on' the words 'foundries not being iron foundries or foundries in which brass casting is carried on.' "

The meaning of the term "fitting shop" in subsection (iii) of Section 1 of the Order means the normal maintenance shop in a works or factory.

From the above, it will be realised that the amount of work necessary in order to comply with the Act is considerable, and whether it is possible for each individual plant in a works to carry out the requirements of the Act satisfactorily is a most contentious matter.

In all probability the most suitable method will be one where there is a central cleaning squad who are responsible for cleaning not only the individual shops and plants but also the roadways and walkways inside the factory. All too often, each member of the supervisory staff has his/her own ideas of what is clean and what the Act requires, but unfortunately their ideas do not always comply with the Law's requirements.

Another frequent source of trouble is the division line between two shops or plants or, alternatively, the roadway adjacent to the plant. Material tends to accumulate at these points and is left there because it is the "other person's" duty to clean that particular spot. If, however, the whole responsibility for cleaning both inside and outside shops and plants is given to one squad such problems do not arise.

Where the actual cleaning or washing of floors is carried out, it is not necessary for the cleaners to get down on their hands and knees, as there are mechanical scrubbers available, powered by electric motors. If there are adequate earthing precautions to prevent the user sustaining serious shock, they increase greatly the rapidity with which such work can be carried out.

Where smallish areas have to be dealt with, a very suitable method is the employment of deck scrubbers or mops and mop buckets. These buckets are provided with a strainer on one half of the top of the bucket, which enables the mop to be wrung out speedily.

Various types of proprietary preparations are available which can be placed on floors and then swept up. In some cases these have a cleansing action, and in others they reduce the amount of dust in the atmosphere. Cheap materials for this purpose are tea-leaves or damp sawdust.

Where roadways are concerned, it is advisable to detail a length of road or an area to a cleaner and have him patrol this area with a trolley which contains two dust-bins or containers in addition to his brooms and shovels.

Where considerable areas of road have to be kept clean a mechanically drawn revolving broom deals with this work very expeditiously.

During the winter season it is advisable to be prepared to deal with sudden heavy falls of snow and, in this connection, there should be a supply of salt commensurate with the area which will have to be cleared.

OVERCROWDING

FACTORIES ACT, 1937. Section 2.

The Act requires that:

"(1) A factory shall not, while work is carried on, be so overcrowded as to cause risk of injury to the health of persons employed therein.

"(2) Without prejudice to the generality of the foregoing provision, a factory shall be deemed to be so overcrowded as aforesaid, if the number of persons employed at a time in any work-room is such that the amount of cubic space allowed for every person employed in the room is less than four hundred cubic feet.

"Provided that, if the Chief Inspector is satisfied that owing to the special conditions under which the work is carried on in any work-room in which explosive materials are manufactured or handled, the application of the provisions of this subsection to that work-room would be inappropriate or unnecessary, he may by certificate except the work-room from those provisions subject to any conditions specified in the certificate.

"(3) The Secretary of State may make regulations as respects any class or description of factory, or parts thereof of any process, increasing the number of cubic feet which must under this section be allowed for every person employed in a work-room.

"(4) In calculating, for the purposes of this section, the amount of cubic space in any room, no space more than fourteen feet from the floor shall be taken into account, and, where a room contains a gallery, the gallery shall be treated for the purposes of this section as if it were partitioned off from the remainder of the room and formed a separate room.

"(5) Unless the inspector for the district otherwise allows, there shall be posted in the work-room a notice specifying the number of persons who, having regard to the provision of this section, may be employed in that room."

This Regulation includes a general provision somewhat similar to Regulation One in so far that whilst it lays down the minimum number of cubic feet of space that is required per person it also says that, notwithstanding the fact that 400 cubic feet or more are provided per employee, if the workroom is still overcrowded further space must be allowed.

This requirement is probably due to the fact that a room might in itself provide well over 400 cubic feet per person employed therein, but a specific part of that workroom may be overcrowded due possibly to extremely large machines, stacked materials, etc.

The requirement, it will be noticed, does not relate solely to air or ventilation. It requires that the factory shall not, while work is carried on, be so overcrowded as to cause risk of injury to the health of the persons employed therein.

The cubic content is calculated by multiplying the area of the room by the height, or by 14 feet, whichever is the smaller of these two figures. In calculating for the purposes of this section it should be noted that where a gallery is at a height of 14 feet from the floor, a further 14 feet or the ceiling height, whichever is the lower, can be taken from the gallery, but it must be noted that only the area of the gallery or platform can be used and not the area of the floor or work-room over which the gallery is situated.

Normally, offices do not come under the provisions of the Factories Act, as they are excluded by section 151, subsection 6, which states that "where a place situated within the close, curtilage or precincts forming a factory is solely used for some purpose other than the purpose carried on in the factory that place shall not be deemed to form part of the factory. . . ."

A foreman's office would probably fall within the provisions of the Act, but it is not likely that it would be considered as a work-room as required in section 2, subsection 2.

TEMPERATURE

FACTORIES ACT, 1937. Section 3.

"Effective provision shall be made for securing and maintaining a reasonable temperature in each work-room, but no method shall be employed which results in the escape into the air of any work-room of any fume of such a character and to such an extent as to be likely to be injurious to persons employed therein.

"In every work-room in which a substantial proportion of the work is done sitting and does not involve serious physical effort, a temperature of less than sixty degrees shall not be deemed, after the first hour, to be a reasonable temperature while work is going on, and at least one thermometer shall be provided and maintained in a suitable position in every such work-room.

"The Secretary of State may, by regulations, for factories or for any class or description of factory or parts thereof, prescribe a standard of reasonable temperature (which may vary the standard prescribed by the last foregoing subsection for sedentary work) and prohibit the use of any methods of maintaining a reasonable temperature which, in his opinion, are likely to be injurious to the persons employed, and direct that thermometers shall be provided and maintained in such places and positions as may be specified."

What is a "reasonable" temperature is a question of fact dependent among other things upon the nature of the work carried on and upon the season of the year.

It will be noted (in subsection 2) that where serious physical effort is not required, a temperature of less than 60° F. is not a reasonable temperature after the first hour's work has been carried out. It should be noted that thermometers have to be provided in every work-room and that it is an offence to discharge offensive fumes into a work-room in which persons are employed.

An example of the type of heating which is prohibited is the unventilated coke brazier, which is dangerous because it gives off not only sulphur fumes, but the insidious carbon monoxide which cannot be smelt and even in small concentrations can result in fatal accidents.

Suitable forms of heating are certain types of solid-fuel stoves, steam, water or electric heaters and gas fires. Gas heating and some types of solid fuel are only suitable when effective steps are taken to draw off any fumes which may be dangerous to the room occupier. In this connection, producer gas is not a suitable means of room-heating unless very careful precautions are taken. Steam and hot-water heating through pipes or unit heaters are very suitable methods, but where steam-lines are used in a work-room,

adequate precautions must be taken to ensure that employees do not come into direct contact with them, as they can suffer severe burns by so doing. An effective method of preventing this is to have the steam-lines enclosed in a wire-mesh guard.

Water-heating does not normally require such a precaution to be taken. Unit heaters, where heated by electricity or steam, are often a very satisfactory method of local space heating in a large shop which would otherwise be extremely costly to heat. But where unit heaters are installed, precautions should be taken to ensure that if an employee has occasion to carry out work in the vicinity of the heater for any reason whatsoever whilst it is in use, it must be guarded. Although unit heaters are in the main from 12 to 15 feet from the ground, numerous accidents have occurred to employees who have used a ladder to gain access to the heater for maintenance purposes and have then suffered severe injury through their hands having come into contact with the fan impeller. Therefore, "safety by position" cannot be assumed for a unit heater, even if it is in an isolated position many feet from the floor-level.

Electric heaters can take various forms and their heating effects can be used for local heating probably more usefully than for space heating.

Solid-fuel stoves can be fitted and fuelled by coal, coke or anthracite and, provided that any noxious or toxic fumes are efficiently dealt with, prove satisfactory in the majority of cases.

The greatest trouble with these stoves is that unless they are carefully designed, they are not an economical method of space heating and there is also a tendency for dirt to accumulate around them. A further trouble that can and does occur with these stoves is that the person in the immediate vicinity suffers from overheating while a person a little farther off is complaining of the cold.

Humidity.—A humid factory means a factory in which atmospheric humidity (damp air) is artificially produced by steaming or other means in connection with any textile process. It is necessary for the Occupier of such a factory to give prior notice to the Inspector of his District before he first causes artificial humidity to be produced at that factory.

The Regulations covering the use of humidity are very stringent and the Occupier of such a factory should refer to section 52 of the Act.

It will be realised that with an ordinary factory if the humidity is increased, the effect will be somewhat comparable to an increase of the temperature. A method such as this of artificially altering the effect of a temperature cannot be commended for general practice and should only be used within strictly limited bounds.

VENTILATION

FACTORIES ACT, 1937. Section 4.

The Act requires that:

"Effective and suitable provision shall be made for securing and maintaining by the circulation of fresh air in each work-room the adequate ventilation of the room,

and for rendering harmless, so far as practicable, all fumes, dust and other impurities that may be injurious to health generated in the course of any process or work carried on in the factory.

"The Secretary of State may, by regulations, prescribe a standard of adequate ventilation for factories or for any class or description of factory or parts thereof."

The Jute (Safety, Health and Welfare) Regulations 1948, S. R. & O. 1696, which came into force on the 1st January, 1949, specify in Section 5: "In every room where persons are employed the arrangements for ventilation shall be such that:

"(a) during working hours and at a height of not more than 6 feet from the floor of the room, the proportion of carbonic acid in the air of that room does not exceed 20 volumes per 10,000 of air at any time when gas or oil is used for lighting in any part of the room, or within one hour thereafter, or 9 volumes of carbonic acid per 10,000 volumes of air at any other time, and

"(b) no person employed is exposed to a direct draught from any air inlet."

It is sufficient that a supply of pure and wholesome air is delivered to each work-room, and wherever possible this supply should be by natural means and if this cannot be done recourse must then be made to mechanical means.

The ratio of changes of atmosphere which the Institute of Heating and Ventilation Engineers consider most desirable is some six per hour. This figure, however, does result in exceptionally costly heat losses in large buildings, and for many types of operation three to four changes per hour can be considered suitable. In the majority of cases where correct design of the building has been achieved, mechanical means will not be required to reach this figure.

Various types of large ventilators which will ensure the changing of a specified volume of air per hour are available. It is not intended to deal here with exhaust or local ventilation, which falls properly under the heading of "Safety."

Every work-room is ventilated to some extent, whether designed to this end or not. The circulation is often aided by air currents caused by heating devices, and higher intake temperatures which provide a certain amount of ventilation even when doors and windows are closed. Air can enter through practically all types of building materials as well as through cracks and crevices, but reliance on this fact cannot be expected to give good results under varying conditions.

Heating appliances cause the air to expand and rise, and if suitable openings are provided in the roof the rising air currents will pass outside to the atmosphere.

Provision must naturally be made for inlets at or near floor-level to replace air which is dispersed in this manner. Where louvres or ventilators are fitted in the roof, they can be adjusted so as to cope with the volume of

air which it is intended to change. Rarely, however, do these louvres receive the adjustment which is necessary to cope with sudden changes in temperature and atmosphere.

When external ventilating stacks are used, it is very necessary to make provision to prevent down-draught.

Air entering a room should be so planned that cold blasts or draughts do not play directly on employees who have to work in fixed positions. Deflectors can be arranged in front of windows to ensure that no direct draught can strike those working inside the room.

With the "plenum" system of ventilation, air is driven or forced into the room by fans. No attempt is made to remove air from the room by this system and it escapes through windows, doors, crevices, etc. It may be advisable to heat the air before it is blown into the room. One advantage of playing air through ducts is that the exact quantity of air can be measured and also that it can be washed and heated before entering.

An important point, allied to ventilation, is that of air movement. Although the ventilation in a room may be quite satisfactory, those working there often think that the temperature is lower during hot weather when the air is moved around by the use of fans. The most useful type of fan is generally one with an oscillating motion. These fans do not improve the ventilation but they do cause considerable air movement and thus prevent stagnant accumulations of heated and moist air.

To sum up on this point of air movement, it can be said that local fans will not remove impurities from the air, neither will they supply pure air, but placed in an open room they will, in certain conditions, increase the comfort of those working therein.

Air-conditioning.—In certain types of industry such as fine chemicals, films and food production, it may be necessary for the purity or condition of the product to supply conditioned air. An air-conditioning plant can regulate the temperature, movement and humidity of the air, as well as eliminate dust, dirt and fog.

FACILITIES FOR SITTING

FACTORIES ACT, 1937. Section 44.

The Act states that:

"There shall be provided and maintained, for the use of all female workers whose work is done standing, suitable facilities for sitting sufficient to enable them to take advantage of any opportunities for resting which may occur in the course of their employment."

FACTORIES ACT, 1948. Section 6.

The Act states:

"(1) The following provisions of this section shall be substituted for those contained in section 44 of the principal Act (which requires facilities for sitting during oppor-

ilities for resting to be provided for all female workers whose work is done standing).

"(2) Where any employed persons have in the course of their employment reasonable opportunities for sitting without detriment to their work, there shall be provided and maintained for their use suitable facilities for sitting sufficient to enable them to take advantage of those opportunities.

"(3) Where a substantial proportion of any work can properly be done sitting,

(a) there shall be provided and maintained for any employed person doing that work a seat of a design, construction and dimensions suitable for him and the work, together with a footrest on which he can readily and comfortably support his feet if he cannot do so without a foot-rest; and

(b) the arrangements shall be such that the seat is adequately and properly supported while in use for the purpose for which it is provided.

"(4) For the purpose of the last foregoing subsection, the dimensions of a seat which is adjustable shall be taken to be its dimensions for the time being adjusted.

"Section six of the Act shall come into force on the first day of October, nineteen hundred and fifty."

All too often, a seat is regarded as an unimportant matter. Every seat is not of itself adaptable to the needs of every person.

It should be obvious that a stool for working at a bench may be correct for a person who is 6 feet in height, but it cannot be considered the correct size for a person who is only 4 feet 6 inches. One should, therefore, consider the supplying of the correct size or height of seat according to the person who is using it. In addition, the nature of the work plays a very important part in the type of seat required. Discomfort and strain are often caused quite unnecessarily by the lack of seating provision, and this can cause increased fatigue, reflected in absence from work or reduced output. Wherever possible, work-benches should be of such a height that it is practicable for the work to be carried out with the operator selecting at will whether he sits or stands. This change of posture allows the worker some form of relaxation and by doing so reduces fatigue.

If no choice is available between sitting or standing, it is preferable that the work should be done sitting, as the worker will normally be able to change his posture during break periods.

In the Industrial Health Research Board Report No. 14, Mr. E. Farmer, M.A., states that:

"the first thing to be considered is how far an operation which is usually done standing can be done equally well sitting and how far an operation that is done sitting can be equally well done standing.

"The body is sure to become unnecessarily tired if it remains the whole day in one position, either sitting or standing. If the operation cannot be done in both positions, sitting is preferable to standing."

This opinion has also been advanced by other industrial research workers.

Seats must comply with two important general principles: one, that they are so designed and adjusted that work can be carried out with comfort and safety; two, that wherever possible, a voluntary change of posture should

be available. It therefore follows that a seat must be of the correct height for the worker in relation to the work, and it must be stable, with a comfortable seat, an adjustable back-rest and a secure foot-rest of adequate size.

As mentioned earlier, where work has to be carried out at fixed benches, the seat must allow for the varying stature of the workers, and either the foot-rest must be adjustable or false floors should be provided.

Foot-rests which are fixed close to the chair legs do not constitute a suitable foot-rest, as the worker's thighs are cramped against the edge of the seat.

In certain types of occupation it may be necessary to provide arm-rests either to provide steadiness for the hands or to rest the arms whilst working.

In the selection of the right seat, attention must be given to a number of points: comfort, cleanliness, support, durability and stacking.

Comfort.—A properly designed seat need not of necessity be padded. Where they have to be washed at frequent intervals, most forms of padded seats are unsuitable. In these circumstances it is essential that great care is given to the design of the seat.

Where upholstered seats can be used, consideration should be given to the outer covering and also to the filling. One of the most suitable types of filling is "Dunlopillo," which allows air to circulate within it, is hygienic and very durable. Alternative types are padded, sprung or felted. On tractors and similar vehicles where a steel "pan" seat is employed, it is so sprung and shaped that, notwithstanding the hardness of the material, it is very comfortable for long periods. Another material which is coming to the fore in recent years is the canvas seat on tubular metal framework. This form of seat can, in certain cases, be detached for washing, whilst in the remainder it can be scrubbed quite easily *in situ*.

The framework of the seat offers various alternatives, but in view of the hard treatment that is given to most types of industrial equipment, the most suitable material is metal. This framework can be tubular, pressed or of angular construction.

The legs should be well spaced and, if necessary, splayed at the bottom so as to eliminate the possibility of them tipping over if the worker moves somewhat over the centre of gravity.

Other alternative forms of seats are those which are on wheels, fitted to the sides of machines or folding seats screwed to the wall.

Adjustment.—It is impracticable to consider in the majority of cases the purchase of a specific seat which fits the individual worker, but what can be done is to purchase an adjustable seat which can be altered as required. The correct height for a seat in relation to a work-bench where work is done both sitting and standing allows for the worker's elbows to bear the same relation to the working level whatever the posture adopted, i.e. sitting or standing.

It is important that the seat should not be so close to the underneath of

the work-bench that the user's thighs are constantly pressing against it. Where this occurs, it can be remedied by cutting away a portion of the underside of the bench. In addition to the thighs being given a clearance, it is also necessary to make provision for the knees, and as a general rule there should be a clearance of approximately 12 inches from the front of the seat when in the working position and 7 inches beneath the under-side of the work-bench and the seat-level.

There are various types of adjustable seats, in some of which the seats are raised or lowered by the application of a screw on the central seat pillar. A cheaper form has legs with feet which can be raised or lowered by undoing a nut or bolt.

Whatever type of adjustable seat is installed, it is essential that one person is made responsible for the seats to be adjusted correctly for each worker. The correct adjustment can be determined by measuring the working height according to the following method:

(a) The height of the seat of the chair above the level at which the worker's feet normally rest.

(b) The horizontal distance of the foot-rest from the chair legs.

(c) The height of the back-rest.

(d) The height of the level of the work above the seat of the chair.

The following is a brief description of the method adopted at one factory. An experimental stool is used and the worker is measured in the sitting position from the under-side of the heel to the under-side of the knee. It is considered that the height of the seat from the foot-level should be slightly less (say $\frac{1}{2}$ inch) than this measurement. The stool is then set on a block of appropriate height within a frame, which provides for the horizontal adjustment of a foot-rest and the vertical adjustment of a back-rest and work-table. When these have been adjusted, the other measurements required are taken, and a chair to suit each worker is made without difficulty.

At the factory in question, girls of varying height are engaged on the same piece of work, so that the level of the work must in all cases be the same, and it is necessary to make a final adjustment of the height of each chair and foot-rest above the floor.

This method is taken from the Ministry of Labour and National Service Welfare Pamphlet No. 6.

In the design of work-benches and/or machines, consideration must be given to the provision of any control levers which the worker will have to use. They should be so positioned that they can be reached wherever possible from the sitting position without undue stretching or reaching.

Support.—Where a thrust has to be given to the work, the seat should be so designed that it enables the worker to obtain a grip on the seat and, therefore, a flat piece of wood is not suitable. In some cases it may be necessary to employ a well-sided seat; in certain other occupations, a saddle seat is most suitable.

In all cases such as these, it is desirable that the advice of an expert on seating should be obtained. Most manufacturers are prepared to advise on such points so as to enable the factory Occupier to purchase the type of seat most suited to the type of work in hand.

Back-rests are a necessary provision in the majority of cases, and where welfare regulations call for them it is obligatory on the part of the Occupier to provide seats with back-rests for women workers during rest periods.

For certain types of work, arm-rests can be provided on the actual work-bench as they will provide support and steadiness to the workers' hands when carrying out delicate operations.

Foot-rests should be adequate in size, and they should not be less than 15 inches by 12 inches so as to allow for movement of the feet. Generally, it is better that they should be sloped, but where a firm grip is required for intermittent working, a flat bar or pedal type of rest can be fitted as an addition to the seat legs or stand.

Where work-rooms have to be cleared at frequent intervals, "nesting" seats may provide the answer. These seats can be stacked in each other to a considerable height and will then only occupy the floor space of one actual seat. The manufacturers also provide trolleys which will convey several stacks of nesting seats in safety and with ease. Besides the use of seats for the actual carrying out of work, they are also required under the Act to be provided so that female workers can take advantage of any periods of rest which they have during their cycle of operations, and for rest-rooms and canteens. Under Section 6 of the Factories Act 1948, provision for sitting when possible has also to be made for male employees.

In canteens, the need for stacking seats is considerably greater than in work-rooms, and it is here that a light tubular frame with a canvas seat is of great advantage.

One point that should be considered in connection with canteen seating is that forms are rarely suitable. The reason for this is that if a form is provided, as it should be, with a back-rest, it is almost impossible for any person other than those on the ends of a form to leave the table without disturbing the others who are sitting there. Therefore, if forms or benches are used, they should be kept as short as possible and not seat more than three or four persons as a maximum.

MESS- AND REST-ROOMS

In many industries it is not legal for an employee to partake of his meals in the work-room, and it has been found that the provision of rest-rooms where suitable chairs and couches are available has a considerable influence on the morale of female workers. Elaborate fixtures and fittings are not required, as these small-plant rest-rooms should not be considered as substitutes for canteens. The walls should be finished in such a manner

that they can be easily cleaned or washed at frequent intervals and the floor should be of such a type that a hose-pipe can be readily applied and the water brushed away into a drain.

For meals, some provision should be made for providing hot water and, in this connection, unless there is a regular attendant a boiler operated by steam is not advocated. One of the reasons for this statement is that frequently the steam is left on and the boiler quickly reaches a state where it becomes a danger to all persons using it. There is, in addition, a very high-steam usage for the small amount of water actually required.

Electric immersion-heaters, unless fitted with cut-outs, are not always satisfactory, as trouble occurs when a boiler is filled and the heater left on for a long period, with the result that the water evaporates and the heater is burnt out.

A fairly satisfactory solution is a small electric hot-plate on which tea-cans or kettles can be stood for tea-making, etc. Further needs for such a rest-room are a table, chairs and a basket for refuse.

Table-tops should, wherever possible, be in one piece, and sheet aluminium has been found most useful. Some of its advantages are that existing wooden tables can be readily and inexpensively covered. Unlike enamel, the material does not "star" when it is hit and it can be kept clean quite easily, and it is almost everlasting in wear. Various colours are also available in plastics and sheets of this can be affixed to the table top. The correct grade of plastic does not burn or mark easily and is simple to clean as normally only a damp cloth is required.

Wood tables with joints are not hygienic, and although linoleum covering is an improvement, this is not always satisfactory, due to the fact that water gets under the linoleum. Food scraps and vermin can also get into cracks and crevices between the lino and the wood edge.

Seats or forms should be provided with back-rests so as to allow the worker to relax. Wherever possible, lockers or clothes should not be allowed in a mess-room.

A water-supply for drinking and cleaning is essential, and in the majority of cases drinking fountains should be provided. Mess- and rest-rooms should be heated to a reasonable temperature.

Where a room is set aside for rest purposes only, it is generally intended to be used by female employees, and unless circumstances do not permit, it should be placed near the Ambulance Room.

The rest-room should contain chairs which allow the employees to relax completely and, in a number of cases, deck-chairs with foot extension-rests have been found very suitable. A couch, or couches, with a few rugs which the user can draw over herself are also necessary. Although earlier it was stated that this room should be near the First-aid Room, it should not be understood that it is to be used by women who want to lie down for a period because they feel unwell, as there would possibly be too much noise and

publicity. This latter point must be considered, because well-meaning people do have a habit of coming in and making kind enquiries. This is wrong.

Naturally, a mirror or mirrors will be required in a female rest-room, and if it is open for the use of females during lunch-breaks it is quite a worthwhile thing to provide some form of reading matter.

Pleasant-coloured curtains and a vase of flowers, if possible, add a touch of femininity to such a room.

WASH-ROOMS

Although in the discussion of the facilities for wash-rooms, etc., various suggestions are made for the equipment, it may be well to detail here exactly how the room should be finished. In all cases, a finish which can be hosed down is most desirable. It is most unsatisfactory to have a room finished in such a manner that considerable time has to be spent in scrubbing.

Painted surfaces for walls are not desirable, and distempered walls cannot be recommended. Where possible, the walls should be of glazed tiles or terrazzo panels or a similar material applied *in situ*.

A tap should be available so that the walls and floor can be readily flushed with a short length of hose-pipe.

ACCOMMODATION FOR CLOTHING

FACTORIES ACT, 1937. Section 43.

The Act requires that:

"There shall be provided and maintained for the use of employed persons adequate and suitable accommodation for clothing not worn during working hours; and such arrangements as are reasonably practicable or, when a standard is prescribed, such arrangements as are laid down thereby shall be made for drying such clothing.

"The Secretary of State may, by regulations, prescribe either generally or as respects any class or description of factory a standard of suitable accommodation for such clothing and of arrangements for drying such clothing."

At the time of writing the Secretary of State has not prescribed any general regulations, but there are several orders or regulations covering certain trades. An Order entitled The Jute (Safety, Health and Welfare) Regulations, 1948, S. R. & O., 1696, can be taken as an example of the special standard required for a special class of factory. This standard is as follows:

19. (1) The accommodation for clothing not worn during working hours provided for the purpose of Section 43 of the Act shall, wherever it is reasonably practicable to do so, be provided in a cloakroom or rooms conveniently accessible to the persons for whose use the accommodation is provided.

(2) Where the accommodation is provided in a cloakroom as aforesaid it shall include, for the separate use of each employed person, either

(i) a suitable locker or cupboard, or

(ii) a clothes' hook or peg and a suitable receptacle for footwear.

(3) Every cloakroom shall be placed in charge of a responsible person.

20. For the separate use of each employed person for whom accommodation is not provided in a cloakroom in accordance with Regulation 19, there shall be provided as accommodation for clothing not worn during working hours a suitable locker or cupboard which shall be either in the workroom in which that person is employed or in an easily accessible position in the immediate vicinity of that workroom.

21. The accommodation provided in pursuance of Regulations 19 and 20 shall be adequately ventilated and kept clean and shall be so constructed, enclosed or protected as to reduce, so far as is reasonably practicable, the deposit of dust on the clothing; and the arrangements for the custody of articles deposited in the accommodation shall not prevent free access to any washing facilities or sanitary conveniences.

The first point that must be emphasised in connection with lockers is that although a standard is not prescribed, such arrangements as are reasonably practicable shall be made for drying clothing which is not worn during working hours.

The wording of this section appears to be slightly loose, in so far as, although it is necessary to see that clothing not being worn whilst the person is working is kept in a reasonably dry state, no such requirement exists which calls for the drying of clothing which is left in a locker during the employee's rest period.

This seems somewhat farcical, as the employee may of necessity be working in damp or moist conditions and his working clothing can be left in his locker during the night and when he arrives the following day he will then change out of dry clothing to work for a period of several hours in damp clothes. The writer suggests that provision should be made for the drying of clothing during non-working hours as well as working hours.

Various types of sheet-metal lockers are available and a suitable type is one which is 12 inches or, where possible, 15 inches square with a height of 6 feet, there being a shelf at the top. The top of the locker should not be flat, but should be slanting or apexed, as this will prevent it being used as an additional shelf for unwanted material. As far as possible, the locker should be one which does not permit dust to enter, and for this reason the wire-mesh-front type of locker is not advocated.

Lockers are available as single units or in stacks, and experience has shown that a more safe and stable article is obtained when stacks are used which are fixed to a wall rather than left as loose units. Accidents have occurred when a short person has stood on the bottom of a locker so as to see what was on the upper shelf. The result has been that the locker has tipped forward and injury has been caused through (a) the impact of the locker on the victim and (b) his own impact on the floor.

At the end of each bank of lockers there should be a receptacle for

cigarette ends and a shelf for small articles such as collar studs, tie pins, etc., and it is recommended that a mirror, possibly of chromium-plated steel, should be provided.

In the locker room, provision should be made for workers to sit down to change shoes or boots.

Locker Fastenings.—Whatever type of locker accommodation is available, trouble is likely to arise if keyed lockers or padlocks are used, and it is suggested that wherever possible keyless numerical or alphabetical locks should be insisted upon. It is common practice for keys to be lost daily in large works and, unfortunately, the employee often forces his locker open with consequent damage to the lock or locker, rather than report to the appropriate authority for them to issue him with a duplicate key.

The provision of padlocks by the individual using the locker is not advocated because of the difficulty of obtaining duplicate keys.

Keys.—If keyed lockers are in use, a master key, with sub-masters for each Welfare Block, should be obtained and all lockers should be on a suite which can be opened by the master key or sub-master key. It is the usual practice to have duplicate keys available for sale to employees who have lost the key which was originally issued to them.

Where a large number of lockers are being dealt with, it is a sound investment to purchase a key-cutting machine and a suitable supply of blanks. By this means, duplicates are obtainable at short notice.

As mentioned earlier, the keyless lock has many points in its favour, the primary one being that there is no key to be lost and therefore less likelihood of the door being forced. This type of lock is quite popular in the United States of America, but at the moment is not obtainable in this country.

Drying of Clothes.—Various methods are available, such as hot-air ducts, steam-lines or hot-water or electric tubular radiators under the lockers, but before clothes-drying is tackled in this manner, consideration must also be given to food storage. If the employee places his food in the locker and heat is then passed through, the food quickly becomes stale. Therefore, it is suggested that where food is carried to work an alternative provision other than lockers should be made for its storage.

The actual drying of clothes or heating of lockers can be carried out very simply. One method is to have a steam or hot-water line on the floor and for the locker to be stood over the top of it. In the majority of cases, lockers are provided with legs to a height of four to six inches, so no difficulty is encountered in this respect. The bottom of the locker should be of perforated metal, and there should be an outlet at the top or louvres in the front of the door.

Where hot air is being used this should be led in through ducts, then circulated through the lockers and led away out of the building into the open atmosphere. If this air is allowed to remain in the building, foul odours are likely to be most noticeable.

Alternatives to Lockers.—There are various alternative means of storage of clothes, and although they may be unsuitable in many works there is still a place for them in the smaller factory.

In a very small factory, clothes hooks with a water radiator or tubular heater running along the wall beneath them provide a most satisfactory cloakroom. Where space is at a premium, clothes hooks can be hung on a rail or a line which can be hauled up to the roof or ceiling of the building or workshop and left there until required. This can, and does, prove a most satisfactory method, which is almost theft-proof as the lowering of the whole batch of garments is very noticeable.

Clothes-hangers.—Hanger baskets, which can be hung from rails, are a fairly cheap means of complying with the Regulations, but there are a number of objections which can be raised in connection with their usage.

Foremost is the question of pilferage, as the employee drapes his or her street clothing around the hanger or shoulder and places in the basket his or her shoes and similar non-hanging articles. These clothes-hangers, unless they are raised to the roof of the building, are available for any person to rob during the whole period that the locker room is open. If they are adopted, it is recommended that they should be so arranged that each rack can be raised to the ceiling of the building. By this means, the floor space is not occupied during the day-time and it is impossible for anybody to obtain access to the racks unless they are lowered.

As the clothes are well open to the atmosphere, provided that there is some slight heat in the room, the question of drying does not provide any serious problem. One advantage of this type of clothes fixture is that it is impossible, or almost so, for any accumulation of rubbish to be stored in the basket.

Hanger baskets are, without doubt, the most hygienic and clean type of installation that can be obtained.

Clothes-rooms.—Where there are a considerable number of people using a particular building, some factories have a section of the room wired or partitioned off, and in it are affixed a large number of clothes hooks. On arrival at the plant, the employees hand over their clothes to an attendant who gives them numbered tallies which correspond to the numbers above the hooks on which their clothes are hung. This system probably entails the lowest capital outlay of any and, provided that there is sufficient work to occupy the attendant during the rest of the day, it is quite economical.

One of the drawbacks is that the attendant must always be available should any person require anything from his clothes.

Food Storage.—A difficulty which arises with practically every type of clothes facility is the carrying of the wrapped lunch. If it is intended to make provision for the drying of clothes, it is a certainty that any food which is left either in the locker or the actual clothes will become dry. This raises a serious problem. Besides the obvious solution of carrying food to

the job, the following alternative methods are often adopted with varying success.

In the first instance, a number of small lockers approximately 12 inches by 9 inches by 6 inches can be fitted to the wall of an actual workshop and in these it is possible for the employee to place his sandwiches, tea-can, etc. In the second instance, on arrival, employees take their food to the Canteen and it is, where necessary, placed on a hot-plate to heat, or kept on a shelf where it can be claimed at break-time.

There is available a work chair which includes a small locker under the seat for personal belongings; and where women are concerned, this probably provides the most satisfactory solution.

Cleaning and Inspection of Lockers.—Wherever possible, the cleanliness of lockers should be extended to the interiors as well as the exteriors. It is a good plan to advise employees that their lockers will be opened on a certain day each week for routine cleaning.

If lockers are not cleaned out at regular intervals, they get into a disgusting condition and harbour all kinds of conceivable and inconceivable rubbish.

Externally, lockers should be cleaned and dusted daily and painted as often as is required.

Constructional Work.—On constructional work, considerable difficulties arise as it is rare that proper buildings are available and, therefore, steel lockers are not easy to install. Wherever possible, it is advisable to install a portable hut in which either steel lockers or clothes hooks can be fitted.

The drying of clothes can then be fairly easily accomplished by the installation of a slow-combustion stove. Where portable buildings are not available, it is obligatory under the Building Regulations for some form of shelter to be provided to which the men can retire during inclement weather and also where facilities are available for the drying of clothing.

It is admittedly a difficult matter to cope with the drying of clothing unless proper facilities are available and, therefore, it is recommended that some type of portable building with heating should be provided at the commencement of constructional work.

DRINKING WATER

FACTORIES ACT, 1937. Section 41.

The Act requires that:

"There shall be provided and maintained at suitable points conveniently accessible to all persons employed an adequate supply of wholesome drinking water from a public main or from some other source approved in writing by the District Council, such approval not to be withheld except on the ground of unwholesomeness of the water.

"A supply of drinking water which is not laid on shall be contained in suitable vessels, and shall be renewed at least daily, and all practicable steps shall be taken to preserve the water and vessels from contamination; and a drinking water supply (whether laid on or not) shall, in such cases as the inspector for the district may direct, be clearly marked 'Drinking Water'.

INDUSTRIAL HYGIENE

"Except where the water is delivered in an upward jet from which the employed persons can conveniently drink, one or more suitable cups or drinking vessels shall be provided at each point of supply with facilities for rinsing them in drinking water."

Where water is not drawn from a public main, the factory occupier should contact the Local Medical Officer of Health and request him to take a sample and then issue a certificate. The Medical Officer will then visit the factory and take samples, one of which will be sealed and given to the Occupier if he should ask for it and, provided that the County Analyst certifies that the water is wholesome, a certificate will be granted.

The Act does not specifically state that samples shall be taken at regular intervals, but the Medical Officer has the power to take samples as frequently as he wishes under Acts other than the Factories Act.

Generally, there is no charge for the taking of samples and the issue of the approval in writing of the local Authority.

Distribution.—Water should be available at convenient points throughout the factory and drinking-fountains of a suitable type properly located are the most satisfactory means of distribution. A tap is rarely a hygienic method of distribution, as often the user places his lips to the actual tap and thus the source of supply may be contaminated. Metal cups chained to a drinking-water supply, whilst legal, are again very unhygienic as they are used by more than one person, and under no circumstances should the use of a common drinking-cup be permitted even though facilities for rinsing exist, because it is impossible to ensure the sterility of the cup by rinsing in cold water.

The same remarks apply to glasses or other vessels placed by the supply. An exception to this rule can, however, be made where individual paper cups are provided, as they can be discarded after one use. These cups should be supplied in a sanitary container which prevents them from becoming soiled before use, and a receptacle should be provided for their disposal after use. (Although this receptacle is provided, one cannot ensure that used cups will be placed in it, and there is a tendency for them to be thrown on to the ground and left.)

The most suitable type of fountain is one where the water is discharged at an angle and the fouled water is unable to fall back on to the nozzle. There are a number of designs which are available in this country, and many of them comply with the following standard which has been drawn up by the American Standards Institute:

(a) The bowl shall be constructed of an impervious material such as vitreous china, porcelain, enamelled cast iron, other metals or stoneware.

(b) The jet of the fountain shall issue from a nozzle of non-oxidising impervious material, set at an angle from the vertical. The nozzle and every other opening in the supply pipe leading to the nozzle shall be above the edge of the bowl so that in case the bowl is flooded, the nozzle will not come in contact with the discharged water.

DRINKING FOUNTAINS



FIG. 20 A thoroughly bad fountain

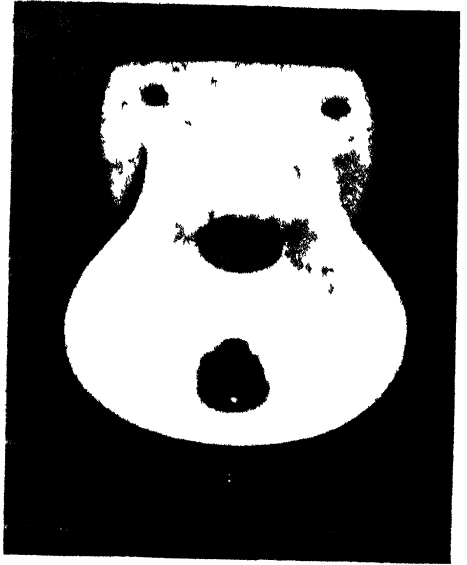


FIG. 21 A better type, but not good enough.



FIG. 22.—A very satisfactory type of fountain.

(c) The end of the nozzle shall be protected by a non-oxidisable guard that will prevent persons using the fountain from coming into actual contact with the nozzle.

(d) The inclined jet of water issuing from the nozzle shall not touch the guard.

(e) The bowl of the fountain shall be so designed as to be free from corners that may be difficult to clean.

(f) The bowl shall be so designed as to prevent undue splashing of the water discharged from the jet.

(g) The drain in the bowl shall not have a direct connection to a waste-pipe unless the drain itself is trapped.

(h) The height of the fountain and the drinking level shall be convenient to persons using the fountain.

(i) The waste opening in the bowl and the drain-pipe shall be large enough to carry off the water promptly. The fountain supply should be equipped with an automatic pressure and volume-regulating valve so that the water issuing from the nozzle will be of sufficient volume and height.

When fountains are installed, they should not be placed on the dead end of a pipe, as in this case the water standing in the pipes is liable to become warm and a certain amount is wasted before a palatable supply is obtained. The fountain should be inserted in the centre of a loop in the supply line, as by this means a supply of fresh water is constantly ensured.

Siting.—Fountains which are placed in the open should be sited so that they are not in the direct rays of the sun for long periods. Suitable points are rest-rooms and certain work-rooms where neither dusty nor poisonous work is carried out. In this connection a fountain should not be placed where a user will have to stand in a walkway and cause an obstruction, as serious injury may result.

The number of fountains required for a given factory is difficult to ascertain, but as a general rule it can be said that a fountain should be provided for every fifty to seventy-five persons working in a factory, and where there are less than that number employed in a particular shop or department there should be a supply available unless there are very good reasons why a fountain should not be installed.

Cleaning.—A person or persons must be assigned the task of cleaning each fountain at least once daily. It is most inadvisable to leave this task to the plant personnel, as often such work is neglected. The person detailed to clean these facilities should be instructed in the need for cleanliness in his/her work and that a high standard of personal cleanliness is essential.

A supply of clean cloth should be given to the cleaner, and he/she must be given instructions that any soiled piece of cloth is not to be used for this purpose. An alternative method is the use of paper towels which can be destroyed after use at each fountain.

Portable Water Containers.—On constructional work it is often difficult

to provide a suitable supply of water from the mains. Notwithstanding this, the practice of having an open bucket into which the employee can dip a common cup should not be countenanced. If, however, a closed vessel such as a bucket or jug with a fixed lip and a suitable lip is used, the risk of contaminating the water is greatly reduced, as it can then be poured into whatever type of drinking-vessel is available. In this connection, a bucket is more suitable than a jug as it is not so easy for a person to drink directly from the lip of a bucket as it is from a jug.

Portable containers should be thoroughly cleansed and rinsed with boiling water each day. If possible they should be sterilised; this can be accomplished by boiling them in an open vessel.

In the majority of cases, a water-supply will be required at an early date on the site of constructional work and, provided that the supply is a suitable one, it is a very simple matter to install drinking-fountains affixed to a temporary stand.

Indication.—The Factory Inspector may direct—and where two sources of supply are available, one of which is not suitable for drinking purposes, will, in fact, direct—that the suitable supply is clearly indicated as being drinking water.

In a number of cases, the British Standards Institution's Specification No. 617 for pipe-lines can be followed, or the line to the supply painted white.

Hot Work.—Where workers are employed in strenuous occupations which also involve high temperatures, salt may be added to the water. In order to make the water more palatable, a number of saline solutions have been prepared, one of which is as follows:

195 gms. Citric Acid
1.9 gms. Saccharine
265 gms. Salt
1 litre Tap Water

This solution is diluted for drinking in the following proportion:

1 pint solution to 20 pints of water.

An alternative method is the use of small tablets containing salt. These are of approximately 15-grain size, and the dosage varies from two to three to fifteen per day.

Salt Distributors.—When tablets are issued, they should not be given to the employees in packets but a distributor should be fixed to the wall adjacent to the drinking-fountain. The employees will then be able to obtain the necessary number of salt tablets in a hygienic state prior to drinking. Before, however, either saline drinks or salt tablets are distributed, the advice of an experienced industrial doctor should be sought, as persons with very high blood pressure and heart ailments should be cautioned concerning the excessive use of salt.

WASHING FACILITIES

FACTORIES ACT, 1937. Section 42.

"There shall be provided and maintained for the use of employed persons adequate and suitable facilities for washing which shall include soap and clean towels or other means of cleaning or drying, and the facilities shall be conveniently accessible and shall be kept in a clean and orderly condition.

"The Secretary of State may by regulations prescribe, either generally or as respects any class or description of factory, or as respects the persons employed in any process, a standard of adequate and suitable washing facilities.

"Provided that, as respects persons employed in any process in which lead, arsenic or any other poisonous substance is used, or any process prescribed by the Secretary of State, being a process liable to cause dermatitis or any other affection of the skin."

With certain exceptions, some of which will be mentioned below, the Factories Act does not state exactly what facilities shall be provided; it merely requires adequate and suitable facilities. Where certain of the Dangerous Trades Regulations are concerned, a stated number of hand-basins must be provided according to the number of persons employed, but other than that, there are no definite requirements. The Jute Regulations, S. R. & O. 1696 of 1948, lay down in Section 23 that:

Washing facilities provided for the purpose of Section 42 of the Act shall not be in a workroom except in the case of a fixed installation installed in a workroom before the first day of January, 1947, which it has been reasonably practicable to remove, and any such fixed facilities may be taken into account in ascertaining whether the provisions of the Act and these Regulations, with reference to washing facilities, have been complied with.

Wash-basins.—Under the Lead Regulations, Chemical Regulations and certain other of the Dangerous Trades Regulations, a standard is prescribed for wash-basins, but with these exceptions there is not a prescribed standard. The following standards will, however, generally be considered sufficient by the Factory Department:

Class "A." Factories engaged on work of a clean nature. One wash-basin or 24 inches of trough space for every twenty workers employed at any one time.

Class "B." Factories engaged on work of a dirty nature. One wash-basin or 24 inches of trough space for every ten persons employed at any one time.

Class "C." Factories covered by some of the Dangerous Trades Regulations and persons engaged on food production and/or handling of food products. One wash-basin or 24 inches of trough space for every five persons employed at any one time.

On the basis of class "A," a factory engaged on clean work and employing 120 persons spread over three shifts need only have two wash-basins!! It will, however, be realised that this cannot be considered adequate if a successful hygiene programme is intended.

The number of basins installed, it will be realised, depends very largely on the type of work upon which the factory is engaged. The following standard is, however, a reasonable one and should prove satisfactory in the majority of industries: one basin for every ten or part of ten persons up to

the first hundred, and subsequently one basin for each additional fifteen persons.

Individual Wash-basins.—Individual wash-basins are suitable where only one basin is being installed, but on larger installations they have many disadvantages, some of which are as follows:

1. The difficulty of keeping them clean.
2. The fact that in the majority of cases they are fitted with taps and the user is unable to wash under a stream of running water. In the wash-basin fitted with a stopper the water quickly becomes dirty and is often left without emptying. There is thus the possibility that some other person may use the water which can then become a transmitter of disease.
3. Scum is often left round the sides of the basin which is difficult to remove, and the cleansers which are used may, and frequently do, cause damage to the finish of the bowl.
4. The difficulty of retaining stoppers; stoppers are, however, available which are affixed to the waste by a bolt and these are very difficult to remove.
5. When stoppers are lost, make-shift replacements such as pieces of rag are wedged into the outlet and there is a tendency for them to cause stoppages in the waste with consequent overflows.

Modern industrial welfare practice has definitely moved away from the idea of installing individual wash-basins on a large scale in recent years.

Washing-troughs.—These can be supplied in lengths to suit the users' requirements, and although their initial costs may be slightly higher, reduced installation costs due to smaller plumbing requirements often make the installed cost comparable with a range of hand-basins.

Wash-fountains.—Wash-fountains are pleasing in appearance and are suitable for installation in practically every industry. They are obtainable in various sizes, common standards being 42, 50 or 54 inches diameter to accommodate six, seven or eight persons respectively.

Materials.—Each of the types listed above can be obtained in glazed fire-clay or vitreous-enamelled cast iron. Wash-fountains are also available in cast aluminium with an anodised finish.

Fittings.—All types of basins should, wherever possible, be fitted with faucets which provide warm water through one delivery. It is preferable that the faucet should be so designed that the user can wash his head and shoulders under it, and it should therefore, provide constant running water whilst in use.

It is not necessary for a faucet to be of a type which supplies as much water as an ordinary tap. A suitable type of spray-head makes a very sound installation.

Taps or faucets should not be of a type which can be left on when not in use, and some form of spring-loading device should be incorporated. At the same time a device which has to be kept depressed with one hand cannot be considered suitable.

WASHING ARRANGEMENTS

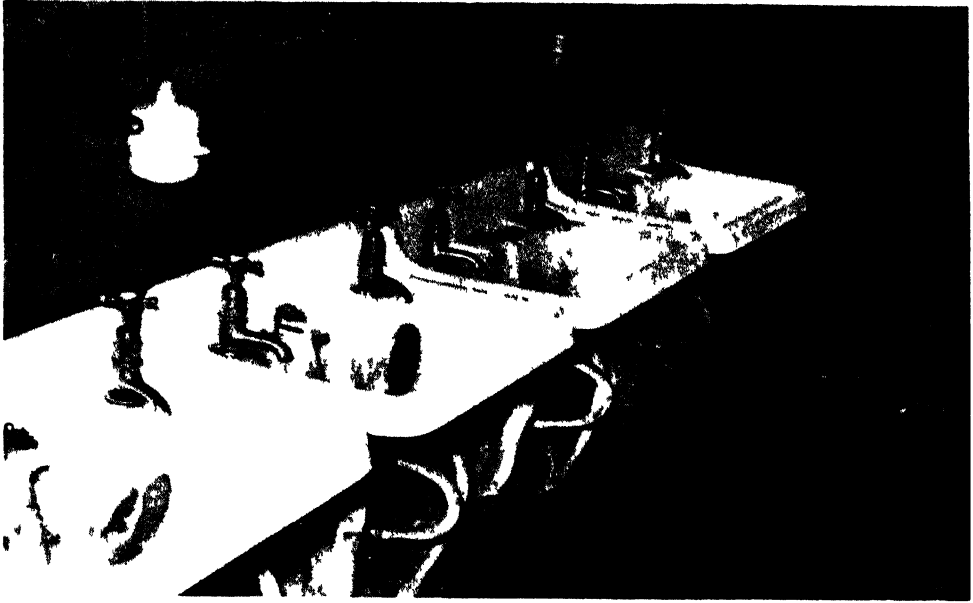


FIG. 24 Untidy pipework and stains make this old-fashioned layout unsightly



FIG. 25 Modern washing trough with individual foot-operated faucets—tiled background adds to the lightness of the room

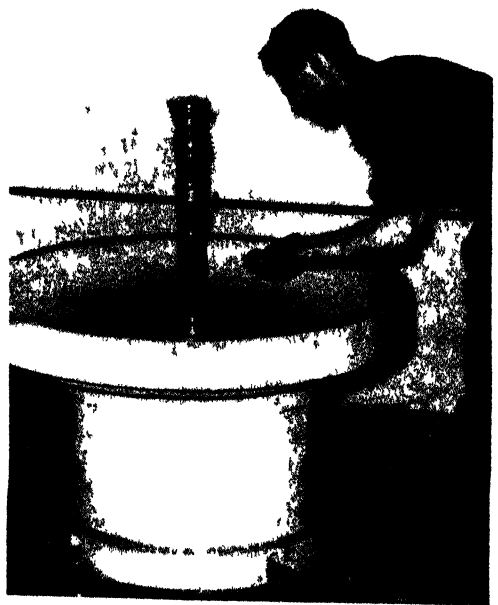


FIG. 26 Latest type foot-operated wash fountain, which is easily repaired and kept clean

Individual pedal-operated systems are often used on troughs and prove very satisfactory if properly treated, but unfortunately they may be abused, with resulting high maintenance charges. A more substantial arrangement is one where instead of a pedal there is a press-button at floor-level which can be depressed with the user's foot. On the circular wash-fountain, various types of water control are fitted. In some cases they may be knee-, foot- or hand-operated, with individual levers or a continuous ring. The most economical type from the water consumption point of view is the individually operated pedal, as this only operates one tap or section of the spray-head.

Taps, faucets, spray-heads, etc., should be either chromium- or porcelain-finished—the latter is the easier to clean and is therefore to be preferred.

All basins should be of a light colour or white glazed finish.

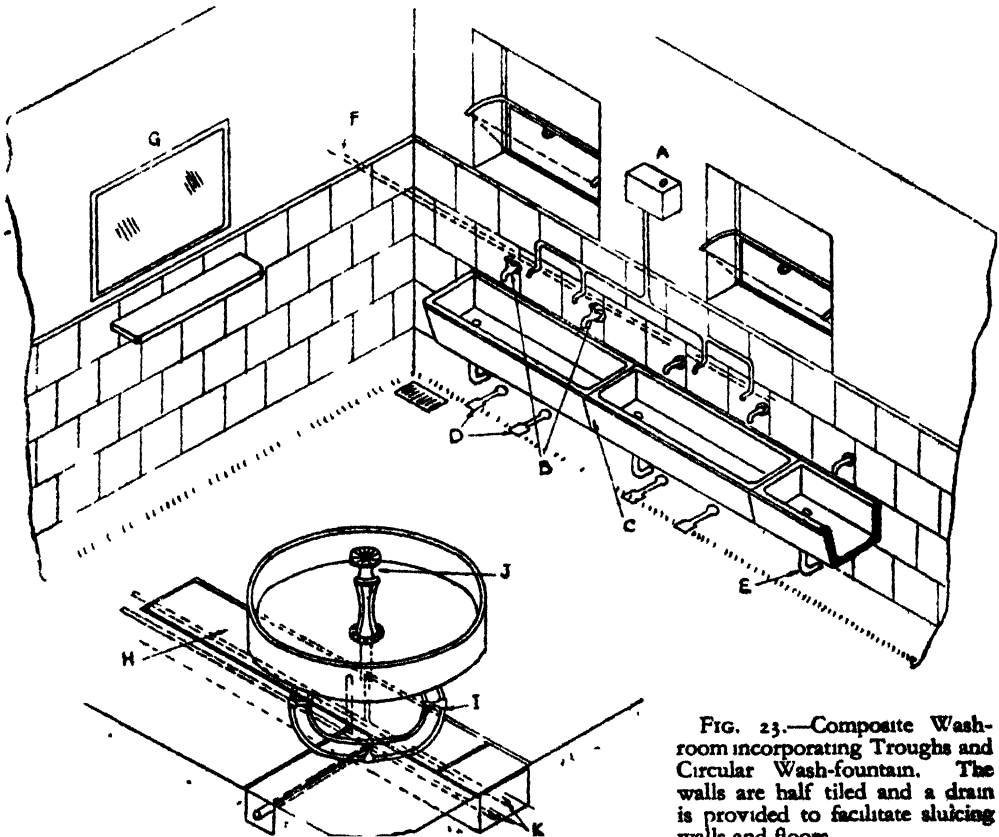


FIG. 23.—Composite Wash-room incorporating Troughs and Circular Wash-fountain. The walls are half tiled and a drain is provided to facilitate sluicing walls and floors.

- A = Soap-foam cistern, pipework and distributors.
- B = Faucets or taps.
- C = Wash-troughs.
- D = Foot-operated pedals for faucets.
- E = Waste pipe.
- F = Thermostatically controlled water-supply.

- G = Mirror with shelf underneath.
- H = Gully for service pipes with removable top plates for cleaning.
- I = Ring foot-control for spray-head.
- J = Spray-head.
- K = Water- and drain-pipes.

Installation.—The installation costs for 24 inches of basin space vary considerably due to the amount of plumbing necessary for the various types of basin. For instance, a circular wash-fountain for eight persons, with thermostatic mixing valve in the supply line, will only require one waste and one supply line; whereas a range of eight hand-basins will have sixteen taps, eight wastes and possibly eight overflows. The number of joints which will have to be made is very considerable in the latter case when compared with the wash-fountain. In addition, the fixing of a wash-fountain is comparatively simple, usually only three or four bolts are necessary. A range of basins will, however, require a support for each individual bowl. This saving in installation expenditure often reduces the cost per length of washing space to below the cost of the individual hand-basin.

The supply of hot water to the hand-basins can be achieved by a variety of means. For a small installation, a gas heater of the Ascot type or a small electric heater will prove both adequate and satisfactory. On a large installation, a boiler at low pressure will meet the needs of all wash-rooms of medium or large size, as the size of the boiler can be related to the amount of water required.

Where steam is produced in a factory, alternatives are available. Firstly, a series of mixing valves can be incorporated into the supply lines, and in this connection it is advisable to include a supporting valve to each tap, as otherwise variations in pressure can occur. These variations, should they occur, may cause either boiling water or steam to be delivered from the tap.

Where a considerable number of washing-points is provided, a calorifier will usually prove to be more satisfactory and there is less possibility of trouble occurring.

Accessories.—The accessories needed to complete the wash-room facilities are very varied, and only those in most common use are dealt with below.

Soap.—The distribution of soap in tablet form is not economical. This is because soap is liable to be left in pools of water which soften and waste it. Furthermore, it is often acquired for purposes other than those for which it was intended within the factory. The use of a cheap bar soap which is not intended for toilet purposes cannot be advocated, as skin irritation has been proved to arise through the use of unsuitable soap.

If, however, soap is being distributed, it should be made on the basis of an "individual personal" issue at regular intervals to every employee. This places the responsibility of looking after the soap on the person concerned. Where persons are engaged on very dirty work, the issue can be made more frequently.

The use of soap in either liquid or powder form is both economical and hygienic. There are various types of dispensers for these materials and they can be obtained in metal, glass or plastics. Their main disadvantage lies in the fact that pilfering is easy, either of the contents of the dispenser or of the complete fixture.

A soap dispenser which overcomes these difficulties is provided by the installation of a cistern with a piped supply which runs in front of the range of basins or troughs with a branch at each washing-point. This delivers a small amount of soap in lather form into the palms of the user's hand on pressing a plunger.

A very large container and a considerable amount of time would be required before even a pint of soap could actually be stolen from this apparatus.

Nail-brushes.—Under the Lead Regulations it is necessary for the Occupier to provide nail-brushes to persons using any compound of more than a stated percentage of lead when engaged on a list of scheduled operations. In addition to these requirements, nail-brushes are required in the majority of factories. They can be of various types, such as the ordinary domestic type of nail-brush, the flat circular-section brush of about 4 to 5 inches in diameter or a cylindrical brush mounted on a rod in front of the wash-basin. Except in the case of the latter type, all nail-brushes should be attached by a chain to the side of the basin. The most economical nail-brush in use is the cylindrical brush, and this is closely followed by the flat circular-section brush. In neither case is the wear concentrated in one spot as frequently happens in the domestic type of brush where the bristles in the centre tend to wear away very rapidly.

Drinking Water.—An upward-jet drinking-water fountain should be made available in the majority of wash-rooms.

Clothes-hangers.—There should be suitable pegs fitted to the wall, on which clothes can be hung temporarily while workers are washing.

Mirrors.—A sufficient number of mirrors should be provided and fixed to the walls or the sides of the lockers, but in no case should a mirror be placed over a basin for two reasons: (1) hair combings tend to fall into the basin and cause stoppages, and (2) persons who are combing their hair occupy a space at a washing-trough and therefore prevent others from washing.

Shelves.—Small shelves should be placed under mirrors so that combs, glasses, etc., can be rested on them whilst the hair is being adjusted. Shelves should not be placed over basins, as injury may be caused by persons striking their heads on the under-side of the shelves. Wherever possible, a recess should be made.

Barrier-cream Dispensers.—The various suppliers are generally able to recommend or provide suitable dispensers for barrier creams, and these should be fixed to the walls so that employees can apply the cream to their hands after washing.

Seats.—In the large ablution room, some provision should be made for persons to sit down. Seats or forms made from metal have much to commend themselves in comparison with those made from wood. Where forms are used, care must be taken to ensure that they are of a type which will not tip up easily if a person should sit on the extreme end.

Lighting.—Lighting fittings, unless of the enclosed or bulk-head type, should not be installed in such a position that a person can reach the fitting whilst washing or standing on a wet surface.

TOWELS AND DRYING FACILITIES

FACTORIES ACT, 1937. Section 42. Washing Facilities.

The Act requires that there shall be:

“Clean towels or other means of cleaning or drying and the facilities shall be conveniently accessible and shall be kept in a clean and orderly condition.”

Under the powers given to him, the Secretary of State has made an S. R. & O., 1938, No. 581, which calls for special requirements for those engaged in french polishing, metal plating, printing and the sugar confectionery industries. Other persons for whom special provision has to be made are those in any process in which lead, arsenic or any other poisonous substance is used.

It will be noted that the Act states that the Occupier shall provide and maintain *clean* towels. The operative words here are “provide and maintain clean towels.” It has been held that the annual issue to an employee of a clean towel or towels in the hope that he will wash them at home does not meet with the requirements of the Act. Therefore, if fabric towels are used, it must be realised from the onset that the obligation is on the employer to launder them at frequent intervals.

The Act, however, does not specify that only fabric towels may be used, and various alternative methods are available such as paper towels and mechanical driers. It would probably assist if the various methods of complying with this section are listed.

A. FABRIC TOWELS.

- (i) Individual hand towels.
- (ii) Roller towels.
- (iii) Continuous-strip towel.

B. PAPER TOWELS.

- (i) Individual hand towels.
- (ii) Continuous-strip towel.

C. HOT-AIR DRIERS.

- (i) Individual units.
- (ii) Multiple units.

Before considering the merits or otherwise of each of the above systems, one must consider for exactly what purposes the towels are going to be used. If employees are in the habit of having baths at the works, the only solution is the provision of individual fabric towels, and where the workers are in the habit of washing their feet or backs, again the individual towel is essential. Where, however, only hands or face are washed, any of the methods illustrated under A, B and C is suitable.

Fabric Towels.—These undoubtedly give considerable satisfaction to the user. At the present time, coupons are required for their purchase and these can be obtained through the local Factory Inspector. It is cheaper to buy towelling in bulk rolls and then cut it up rather than to purchase individual towels. Where towels are issued for hand- and face-drying, a convenient length is approximately 24 to 30 inches. Towels supplied for persons bathing should be larger and of a heavier texture than those supplied for other purposes.

Roller Towels.—Unless changed frequently, these towels cannot be considered hygienic. Even then many persons object to their use, and in factories engaged on dirty work they become filthy, as opposed to soiled, extremely quickly.

The Ministry of Labour and National Service in their Welfare Pamphlet No. 8 state that "roller towels are frequently provided and have the advantage of being fixed into position and easily used and there is no hygienic objection to their use if large enough for each person to be able to draw upon a clean portion. A clean roller towel at least 15 square feet in area is required per day for every three persons, or for every nine persons if renewed after every meal and at the close of the day's work."

This would mean one hundred clean roller towels per day for a factory employing 300 persons if towels were changed once daily. It is somewhat doubtful if the majority of factories would be prepared to install such a large number of towels and, furthermore, it would be difficult to ensure individual responsibility as regards their safe custody.

There are various methods for servicing all fabric towels, such as laundering by an outside laundry or washing on the factory premises. Alternatively, a contractor will supply and launder the towels, the towels remaining his property. The employer would have to pay for any lost towels.

The most economical system is one in which the hand towels are both supplied and laundered by the employer. Under such a system, where towelling is purchased in rolls and then issued to the employees, it has been found that two hand towels can be supplied and laundered, and the total cost per annum for this service is in the region of 5s. per employee.

Should one use either of the alternative methods mentioned above, it is probable that the cost will be increased by as much as 50 to 150 per cent.

Continuous-strip Towels.—The continuous-strip fabric towels system is provided by a contractor, who also supplies the automatic container in which the roll is placed. This type of equipment has its place in offices and possibly in wash-rooms where there is good supervision, but a considerable amount of trouble and friction can arise if it is installed where supervision is not available. The mechanism is quite strongly made and is worked on the principle that each person pulls down a fresh piece of towel, the soiled portion then being wound back into the machine. The cabinet is so manufactured that there must be a time-lag before a fresh portion of towel is

available, and unfortunately it is this point which does cause trouble in some wash-rooms. An impatient user pulls with considerable force on a length of towel before the mechanism is freed and thus wrenches down a length without the soiled portion being wound up.

This action when repeated several times causes damage to the mechanism and also means that long lengths of towelling are trailing around and liable to be walked upon.

Paper Towels.—Individual paper towels are available, two standard sizes being 10 inches by 14½ inches and 10 inches by 7¼ inches, and they are used in many factories. The cost, packed in hundreds and supplied in cartons of 3,600 towels, is approximately 50s. per carton, and at first sight it appears to offer an hygienic alternative at a low cost.

The suppliers are generally prepared to supply on loan cabinets or distributors for use with their towels, but unless a very strict control is maintained in the washing-rooms, the consumption of paper towels per employee can reach an unwarrantedly high figure. Over a period of years it was found that in one factory employing some 1,200 persons, the average cost per person was in excess of £1 per annum.

One trouble with paper towels is that unless the surplus water is shaken from the hands, several towels will be required to get them dry. Another difficulty which can, and does, arise is that of untidiness. Although disposal bins are provided, unfortunately they are often not used, with the result that damp paper is strewn all over the floor of the wash-room.

Continuous-strip Paper Towels.—These are rolls of paper affixed to holders on the wall of the wash-room, from which each employee tears off a length sufficient to dry his hands. The remarks made about individual paper towels apply with greater force to the continuous-strip towels.

Hot-air Driers.—The hot-air drier can, and often does, prove a very useful, successful and hygienic alternative to either fabric or paper towels. Its capital outlay can be heavy, and in some cases its installation can be hardly justified on this basis. Where, however, the number of employees using a wash-room is heavy, the *per capita* outlay can be reasonably small. Should, however, there be many scattered wash-rooms, it may amount to well over £4 per head.

Medical opinion on the use of hot-air driers appears to be divided. One view is that chapping is caused through insufficient drying of the hands when towels are used and that fabric towels are often in a most unhygienic condition. An alternative view is that skin trouble can be caused through insufficient rinsing of hands and that the hot air dries the hands with the soap still on them.

The fault with hot-air driers, if it be a fault, lies not with the actual drier but with the user of the machine. If the user would take the trouble to rinse his hands thoroughly and ensure that all soap and other deleterious matter were removed, it is doubtful if there would be any complaints. It must be

admitted that it is most difficult to educate employees in the need for thorough rinsing of their hands when the drying medium is of this type.

Types of Drier.—There are two main types of drier—the individual unit and the “multi-person” installation.

The single-unit drier is operated by a foot pedal and delivers air upwards and downwards through a “C” tube. The top portion of the tube is on a ball-and-socket movement and it is therefore possible to direct the stream of warm air on to the user’s face. These machines can prove quite suitable and, provided they are not abused, are satisfactory. Unfortunately, some young persons have been known to attempt to fill them with water, and this can cause serious damage and grave risk of injury to other persons as well as themselves.

The multi-unit machine is capable of dealing with eight or ten persons simultaneously and is obtainable sectionally. The motor and element form one section, and lengths of porcelain tubing can then be added according to the number of persons using the wash-room. One advantage which the multi-unit possesses is that it is operated by a photo-electric cell and immediately a person places his hands in one of the apertures in the porcelain tube the drier comes into operation. This has the two-fold benefit of reducing current consumption and maintenance charges, as the drier is only in use when it is actually required. It has been found that the current consumption for drying can be reduced to as low as 1s. 6d. per employee per annum when a photo-electric-controlled multi-unit is installed.

From the foregoing it will be realised that it is economical to install hot-air driers where there is a heavy density of workers using a wash-room, but with scattered and low-density wash-rooms it is not necessarily a practical proposition.

The merits of each of the various drying methods should be carefully considered, as in many cases it is possible that a combination of two or more of the methods described above will meet the needs of a particular factory more economically and suitably than any one system.

BATHS

The general provisions of the Factories Act 1937 do not require baths, but for certain of the Dangerous Trades (such as the Chemical Regulations) the installation of baths is required for scheduled occupations.

Baths can be of two main types: the shower- or plunge-bath. Experience has shown that, generally speaking, the shower-bath is more preferable in industry than the plunge-bath, but women workers appear to prefer the latter.

Foot-baths are not often installed, but in many factories far greater use can be made of them than is done at the present time. As with ordinary baths they can be of two types; either the plunge- or the shower-fitting.

The plunge-bath is generally preferred for ambulance-room purposes and is, without doubt, preferable to showers for the vast majority of medical requirements.

Experience has shown that in two very widely different types of factory the shower-baths installed for the use of female employees were rarely, if ever, used. This was possibly due to the fact that the wrong type of fitting was used in each case. The showers were of the direct overhead type, and unless waterproof hats or caps are made available, women will not risk soaking their hair. Even when caps are issued, they are not popular because they tend to disarrange the hair style. Where showers are being installed for women, they should be set at an angle at shoulder height. A suitable type of fitting is the shower-head on a ball-and-socket joint so that it is adjustable for each person.

The water-control valve should be of a hand-operated type with a thermostatically controlled mixing valve installed in the line inside the cubicle. Where showers are installed, it is essential that the temperature of the water should be controlled in each shower cubicle as, unless a person is able to alter the temperature of the water, everybody must, of necessity, have a warm-water shower. In many cases hot and cold taps are provided in the compartments and, subject to the hot tap being readily distinguishable, it is quite safe for the employees to mix the water to the temperature that they require.

The spring-loaded pull type of valve is an alternative method of water control which has achieved a considerable amount of popularity due to the fact that the water cannot be left running when the cubicle is not in use.

Plunge Baths.—Provided that the supply valves can deliver sufficient water to fill the baths within two minutes these are very satisfactory. They have, however, several disadvantages, the main one being that they are often left in a dirty state. This necessitates the employment of an attendant who will make it his/her job to clean each bath after use.

Layout.—Various designs of cubicles for shower-baths have been thought out, but unfortunately the design is frequently poor. In some instances the user has two lockers for his clothes in the locker-room, and he walks from there to the bath and after bathing proceeds back to the locker-room for his clothes. This system has a number of points which can be commended, but unless draughts can be eliminated it will be the cause of many colds. Probably the best system is one where the worker takes a few clothes with him when he goes for a bath, and puts his clean clothes on as soon as he is dried. This necessitates an additional cubicle adjacent to the shower-bath. One type of shower-bath which is most economical in plumbing is the island type of circular or square shower-bath (see Fig. 27), which can be constructed so as to make four, six or eight showers with only one or two waste outlets for water and the same number of inlet pipes for the water-supply.

The materials for construction can be chromium pipe-work with rubber curtains on rings and metal division plates or artificial stone sections.

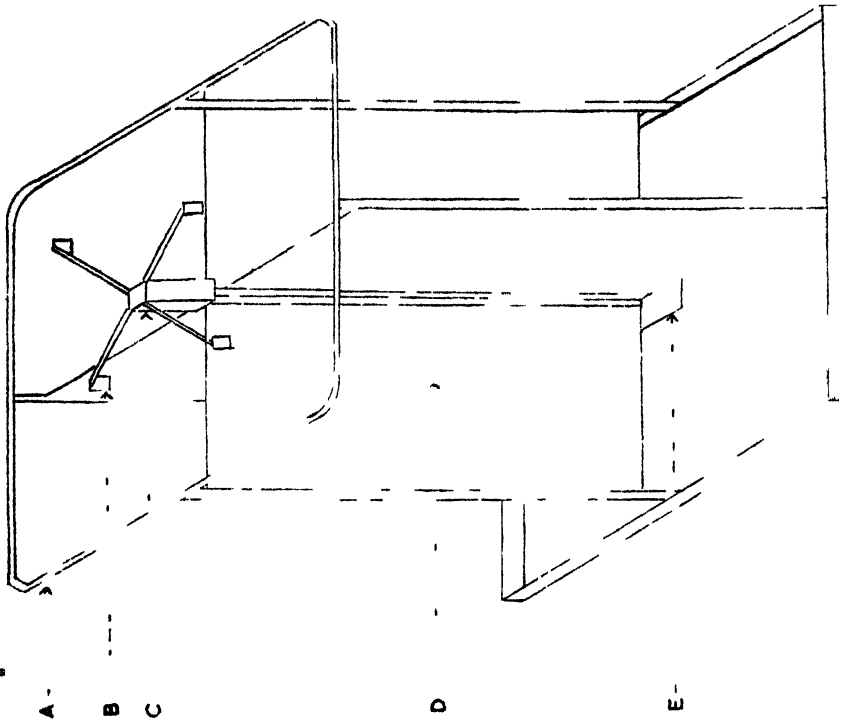


FIG. 28.—Unit Shower-baths.

This type, for four shower-baths, requires only one water-supply and drainage-point
 A = Curran rail
 B = Mist spray-head
 C = Thermostatically controlled mixing valve
 D = Metal or plastic faced division plates.
 E = Central drain



FIG. 27.—Shower-bathrooms Layout.

The upper drawing allows for access to dressing-rooms on both sides, whilst the lower permits entry from one to four sides. In both instances "unit" showers are installed and the water and drainage connections are limited to three points

Where only three shower-baths are required, the half-circular island can be obtained and placed against a wall, and it will then only occupy two-thirds of the space required by the standard square shower-bath.

With the normal square type of cubicle, the sides and backs of the partitions can be faced with a variety of materials ranging from glazed tiles, terrazzo stone slabs to plastic or uralite sheets.

There should be a sufficient fall to enable the water to run away quickly to either the central drain or a gully at the back of each cubicle, and a ledge should be provided in which the soap can be rested.

Glazed tiled floors should not be adopted, as these are very slippery when wet and a person is liable to fall when standing on one foot. Alternatives are certain types of composition, bitumen or concrete floors. Recently it has become possible to obtain sections for the floors of shower-bath cubicles in anodised aluminium. If glazed tiled floors are used in the shower-bath, rubber mats or slatted-wood platforms can be provided so as to overcome the difficulty mentioned above. In this case the attendant must pay particular attention to their cleanliness.

Shower cubicles of the square type should be approximately 3 feet across.

SANITARY CONVENIENCES

FACTORIES ACT, 1937. Section 7.

The Act requires that:

"Sufficient and suitable sanitary conveniences for the persons employed in the factory shall be provided, maintained and kept clean, and effective provision shall be made for lighting the conveniences and, where persons of both sexes are or are intended to be employed (except in the case of factories where the only persons employed are members of the same family dwelling there), such conveniences shall afford proper separate accommodation for persons of each sex."

An S. R. & O. 1938, No. 611, has been made by the Secretary of State regarding the sanitary accommodation for factories.

The provisions are as follows:

"Where females are employed there shall be at least one sanitary convenience for every 25 females.

"In cases where males are employed there shall be at least one suitable sanitary convenience (not being a convenience suitable merely as a urinal) for every 25 males. Provided that in the case of factories where the number of males employed exceeds one hundred and sufficient urinal accommodation is also provided it shall be sufficient if there is one such convenience as aforesaid, for every 25 males up to the first hundred and one for every 40 thereafter. In calculating the number of conveniences required by these Regulations, any odd number of persons less than 25 or 40 as the case may be shall be reckoned as 25 or 40."

Sanitary conveniences should be located as near as possible to the departments they are designed for. The Act, as stated above, requires only one convenience for every twenty-five persons, but this proportion should be slightly increased. Where females are concerned, it is suggested by the

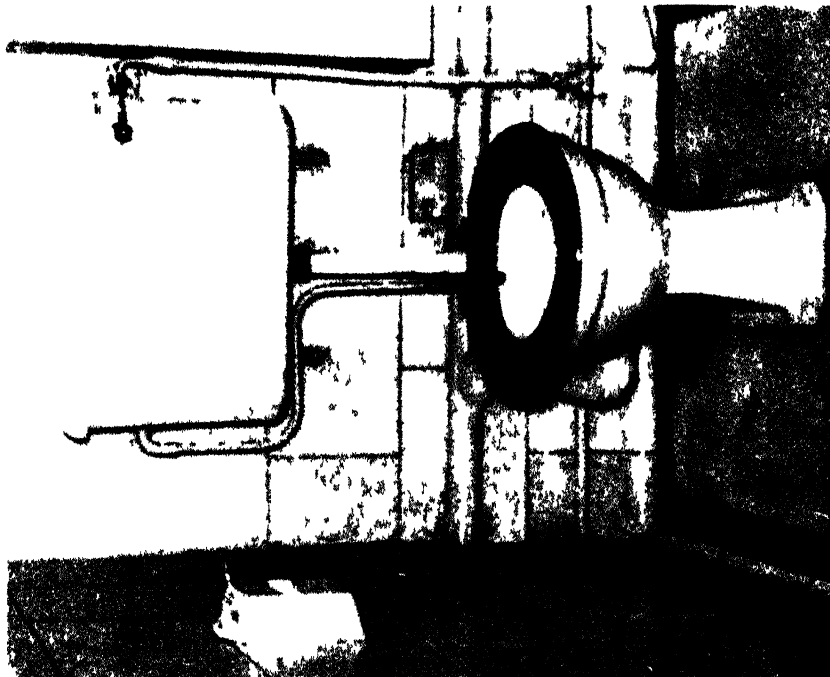


FIG. 29.—Two unusual points of this lavatory cubicle are the exhaust ventilation trunking, right background, and the overflow pipe which is led into the w c pan. As the lavatory is in the centre of a building, some form of ventilation was essential

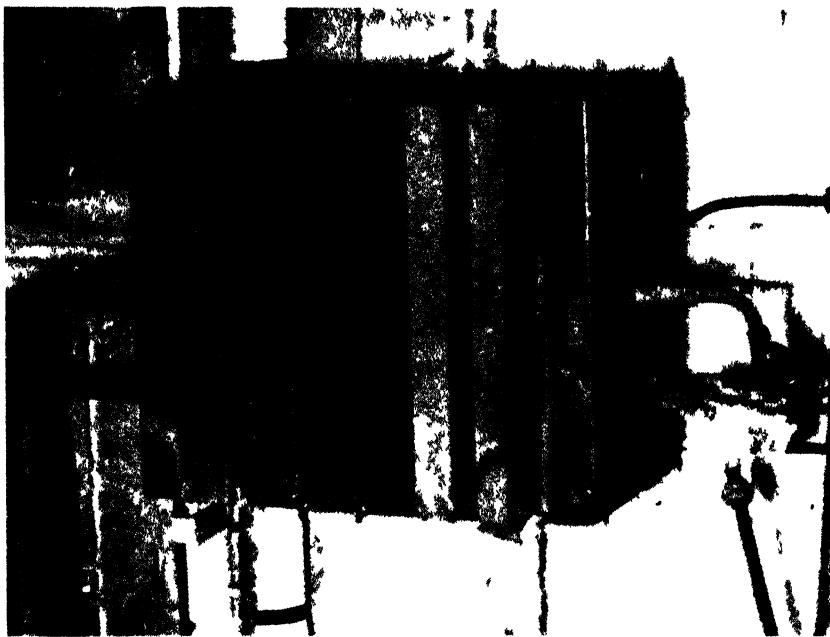


FIG. 30.—A steam-heated Unit Heater which can be suspended from the ceiling of a workroom

writer that for the first one hundred persons there shall be six sanitary conveniences, and for the second hundred 5 per cent. and subsequently at the rate of 4 per cent.

Urinals are most desirable for male employees, and where at least ten or more persons are employed in one area it is suggested that they should be installed on the following basis:

Up to 20 persons	One
Up to 50 persons	Two
Up to 75 persons	Three
Up to 100 persons	Four

Above 100 persons, they should be added at the rate of 3 per cent. for the first hundred and $2\frac{1}{2}$ per cent. subsequently.

Where urinals are provided, sanitary conveniences or water-closets should be installed in the following proportions:

One for 1-15 persons.
Two for 16-35 persons.
Three for 36-65 persons.
Four for 66-100 persons.

Above 100 persons they should be installed at the rate of 3 per cent. for the next hundred and at $2\frac{1}{2}$ per cent. when the number of persons employed is in excess of that figure. Where urinals are not installed, the number of water-closets fitted should be at least on a similar basis to that shown for females.

The Regulations also provide *inter alia* that "every sanitary convenience shall be sufficiently ventilated, and shall not communicate with any work-room except through the open air or through an intervening ventilated space: Provided that in the case of work-rooms in use prior to 1st January 1903, and mechanically ventilated in such manner that air cannot be drawn into the work-room through the sanitary convenience, an intervening ventilated space shall not be required.

"Every sanitary convenience (other than a convenience suitable merely as a urinal) shall be under cover and so partitioned off as to secure privacy, and shall have a proper door and fastenings. Urinals shall be so screened as not to be visible from other parts of the factory where persons work or pass.

"The sanitary conveniences shall be so arranged as to be conveniently accessible to the persons employed at all times while they are at the factory.

"In cases where persons of both sexes are employed, the sanitary conveniences for each sex shall be so placed or so screened that the interior shall not be visible, even when the door of any convenience is open, from any place where persons of the other sex have to work or pass; and, if the conveniences for one sex adjoin those for the other sex, the approaches shall be separate. The conveniences for each sex shall be indicated by a suitable notice."

It should be particularly noted that where sanitary conveniences are installed, each lavatory cubicle must be provided with a door and fastening. This is a provision which was often not complied with prior to the issuing of these Regulations.

Lavatory conveniences should be a minimum length of 5 feet and a width of 2 feet 9 inches or 3 feet.

Partitions may be of glazed brick, tiled, pre-cast concrete, metal-faced ply-wood or terrazzo panels. Distempered, whitewashed or painted walls are not recommended because of the difficulty of cleaning. Furthermore, these walls present many difficulties when one tries to efface childish efforts at writing or drawing. The partitions should be at least 6 inches from the floor and extend to an overall height of 6 feet 6 inches.

It is a great aid to cleaning if this gap of 6 inches is left below all partitions and doors, as the floor can be hosed down with ease.

A comparatively new development is the use of suspended panels. These panels are affixed to either the wall or the ceiling and there is no obstruction at ground-level.

Floors should have a fall of 3 to 4 inches per 10 feet run and there should be a suitable tap with a connection for the hose-pipe to enable the floor to be washed easily.

Urinals should be of the slab type, of glazed fire-clay or pre-cast concrete of a special type such as terrazzo with a highly glazed finish. Whether or not it is necessary to provide partitions is a matter for consideration within each factory. It is suggested by certain authorities that in the interests of modesty these are necessary, but it is merely a matter of opinion. A more sensible installation is one which provides a splash-catcher 3 inches above the floor height, as by the installation of this, there is a marked reduction in unclean odours.

Automatic flushing is essential, and the pipe-work can be of either vitreous enamel or chromium tubing. Copper or brass tubing is not advocated as, unless a considerable amount of time is devoted to the polishing of these pipes, they do not appear to be in such a sanitary condition as they should.

Doors of lavatory cubicles should be provided with a hook on the inside for a hat or coat.

A toilet-roll holder can be provided either inside the lavatory cubicle or fitted on the outside between every two cubicles. An alternative method is the use of interleaved sheets of paper which are placed in a locked container. The use of these sheets it is suggested reduces the amount of pilferage and wastage which occurs when toilet rolls are used.

The question is frequently raised as to the amount of toilet paper that should be allowed per person and it can be stated that as far as works are concerned two sheets per day for every person employed would prove to be a very generous allowance.

The water-closets should be of glazed fire-clay, preferably white, and from the writer's experience should not be of the type fitted with fixed hardwood pads made to British Standards Specification No. 1213 of 1945. In my view this type of water-closet is unsanitary, unhygienic and unpopular

with the users. This type of seat, unless it is kept scrupulously clean, is not used and, as a result, becomes more rapidly soiled.

The seat which is recommended for use in the factory is a laminated plastic or metal seat with a gap front. With the gap front there is comparatively little risk that disease will be transmitted and on these grounds alone it is strongly recommended. The use of individual cisterns for the flushing of each water-closet can be another unsatisfactory arrangement, and it is recommended that a continuous trough type of cistern should be installed where a range of three or more water-closets is installed. By the use of this type of cistern, it is possible for several w.c.s to be flushed simultaneously and, if need arises, any one of them can be immediately re-flushed without having to wait for an individual cistern to refill.

Accessibility.—It will be noticed that under Regulation 7 of the S. R. & O. No. 611 it is not permissible for sanitary conveniences to be closed to employees except at break-time. The Regulation additionally requires that they shall be arranged so as to be conveniently accessible to the persons employed at all times while they are at the factory.

The question of accessibility is a question of fact, and neither the Act nor the Regulations have laid down what is conveniently accessible, but it is submitted that where persons have to walk more than a hundred yards to the nearest cloak-room, consideration should be given as to whether this is conveniently accessible.

Sanitary Towels.—In women's cloak-rooms, provision should be made in each lavatory for the disposal of sanitary towels, and bins should be provided. When the paper situation allows, it is suggested that paper bags should be provided as well. In a large cloak-room it is advisable from the point of view of hygiene to have towel destructors installed. Those operated by either gas or electricity are the most hygienic and effective means of disposal.

Cleansing.—Lavatories should be provided with a small number of wash-basins unless adjacent to the main wash-room. It is essential that lavatories be maintained at the highest level of cleanliness. They should be thoroughly washed down with a hose-pipe and brushed at least once in every day or shift and, in addition, all w.c.s should be scrubbed with soap and hot water at least once per week. Although disinfectant can, and often should, be used, this must not be considered as a substitute for proper washing down.

Constructional Work.—On this type of work, privies should not be countenanced. Chemical closets are easily transportable, cheap to operate and infinitely more satisfactory than any other makeshift substitute.

THE PROTECTIVE CLOTHING STORE

In many industries where the wear and tear on clothing is considerable, the issue of company-owned clothing to employees is considered an essential part of the welfare service. The Protective Clothing Store can also act as a

Company Shop and from it one can sell such articles as working apparel, shoes and sweat cloth. The Protective Clothing Store can be allied with premises for the repair and maintenance of clothing and footwear, such as the Sewing Room and Clogger's Shop.

Goods on Loan.—A convenient method of storage and issue of clothes is made a simple matter by the fixing of a number in the back of the garment or suit. In several factories it has been found that if a contrasting colour of material is available, numbers about 2 inches in height cut out of this are most readily distinguishable when sewn into the garments. For each garment bearing a number, a card is made out stating the number and the description of the article. It is ruled into a number of columns which allow for entries to be made showing the date of issue, person to whom issued, clock number, date returned and whom received by, and one column for remarks such as repairs, loss, damage beyond repair, etc.

The articles generally loaned are (a) for those persons engaged on extremely dirty work, where the loan may be for the duration of the job or for a set period not exceeding two weeks; (b) for protection against acid, where woollen or rubber clothing will be issued; (c) for protection against inclement weather; (d) the use of rubber footwear in water and similar places; and (e) the temporary issue of protective clothing or devices such as goggles, clogs or hard hats, which will not be required after the particular job has been executed.

Clothing which should be available for loan should include cotton boiler suits for dirty work; woollen or rubber suits for acid; Wellington boots and waterproof coats (three-quarters and full-length) for protection against inclement weather.

Goods on Sale.—Before the selling of articles for cash or by deduction from wages is undertaken, the employer concerned should ascertain his position in connection with the Truck Act (*see page 361*).

Having ensured that you are not contravening these Regulations in any shape or form, it will be found that employees appreciate the privilege of purchasing their working clothes at a reasonable price.

The types of articles recommended for sale in the Protective Clothing Store are as follows: Boiler Suits; Two-piece Overalls; Bib and Brace Overalls; Safety Shoes and Boots; Wellington Boots; and, during rationing periods, suitable surplus Service clothing which can be obtained coupon-free.

Clothing for sale can be obtained from a variety of sources, and where coupons are required it is probably best to purchase it from a wholesaler or manufacturer. When resold to the employees the price charged can (subject to the provision of the Truck Act quoted on page 361) include a charge for expenses incurred in the handling. The aim should not, however, be to make a profit on the sale of clothing, but to ensure that the employee is wearing serviceable and clean clothing to enable him to carry out his normal day-to-day work with due regard to his health and safety.

In a number of companies, systems which include the sale of clothing on

the instalment plan have been adopted, and whilst these are probably of great advantage to the employee when wages are low, they do entail a considerable amount of clerical work which tends to increase costs considerably.

Issue of Clothing.—The clothing, on arrival in the store, should be carefully segregated and labels attached either to each garment or each bin, so that the size and price can be quickly ascertained. It is a hopeless policy for all the articles of clothing to be heaped together and then for the seller to have to search through and measure or, alternatively, allow the would-be purchaser to try on garment after garment so as to find a suitable-sized article.

A leading wholesaler recommends that the following proportions of stock-sized garments should be purchased :

Waist measurements:			Shoes:		
	Inches	Per cent.		Size	Per cent.
Men :	32	15	Men	6	6
	34	30		7	13
	36	30		8	32
	38	20		9	32
	40	5		10	16
	42	As required		11	1
	44			12	As required.
Women :	Size	Per cent	Women	Size	Per cent.
	SW	8		3	15
	W	46		4	35
	WX	31		5	35
	OS	15		6	12
	XOS	As required.		7	3

Sizes other than these should only be purchased to order, as it is very easy to acquire a large quantity of small or large clothing which one is unable to dispose of readily.

Cleansing.—Loaned garments on return to the store should be sent to the laundry prior to reissue, as it is a very bad policy to issue once-worn clothing without cleaning.

In the case of Wellington boots, these can be sponged or rinsed out with disinfectant solution and then placed over the open end of an air-line with the air at low pressure (5 lb. per square inch) and it will be found that they are quite quickly dried.

If tears are observed in clothing when it is returned, the holes should be drawn together with thread or cotton prior to it being washed, as otherwise more damage is likely to occur during the process of laundering.

On return from the laundry, all clothing should be closely examined to see if there are any buttons missing or tears which require repairing, and that the identification marks are still present.

Sewing-room.—These operations can best be undertaken by the sewing-room, which should be attached to the Welfare Department. It has been found that this room provides suitable employment for older women and for those on light duty subsequent to accident or illness. The older woman, for whom it is often difficult to find a place in industry, does give most satisfactory service in the sewing-room because she has had considerable experience in the repair and maintenance of the clothing of her family.

The equipment required for a sewing-room is fairly simple. One or two sewing machines will be sufficient to cope with a factory with approximately 1,500 persons on its pay-roll, and for larger factories one can reckon that one sewing machine per thousand persons would be ample. In addition to this, an electric iron or two will be required for pressing prior to sewing.

The sewing-room can also undertake the repair and making up of hand towels and tablecloths for the canteen. As I have mentioned, it is considerably cheaper both from the cost and coupon angle to buy towelling in large rolls containing several hundred yards. These rolls are then cut up into lengths and it will be found that the actual cost per towel, including labour, is considerably lower than when individual towels are purchased.

For repair of table-cloths and towels, it is advisable to have an attachment on the sewing machine which permits of darning to be carried out on the machine.

Treadle machines are quite satisfactory, although where long runs of work are being undertaken, an electric motor proves most useful. The needles of sewing machines when power-driven should be guarded, and a simple needle guard is available which has prevented a large number of injuries to users' fingers.

Storage of Clothes.—Where clothes are being stored it is essential that the room should be dry. In fact, one can go farther than that and say that the room should be a little hot, i.e. a temperature range of 65° to 70° F., as by this means one will ensure that clothing is completely aired before issue.

Racks are quite useful, but for ready identification it is suggested that there should be lengths of tubing on which clothes-hangers can be hooked, each hook bearing the number of the suit so that when a person requires a suit he merely gives the number of the suit he needs and it can then be identified by the number on the hanger.

The labour force required for a Protective Clothing Store will depend on several points. The first is the number of issues of clothing made daily, and then the number of sales which are undertaken, etc. For a store making about 150 issues of clothing on loan weekly and selling up to 300 garments per week, it will probably be found that two or three men will be necessary. This provides suitable work for disabled persons or for those returning to work on light duty.

In practice, the sewing-room is able to cope with the normal amount of repairs if there is one woman for every thousand personnel.

LAUNDRIES

The installation of a completely equipped laundry for use in the factory or works is becoming popular and the reasons for this are two-fold: firstly, to launder company-owned materials or employees' working clothes and, secondly, to launder employees' personal clothing.

In connection with its usage, a number of factories have installed complete laundries for the family washing of their married women employees. They have realised that in order to attract the married woman into industry it is up to them to assist her by helping with her homework. It has been realised that washing and ironing accounts for a considerable proportion of a woman's time and that, after perhaps an arduous day at work, she has not the necessary energy to handle a heavy wash in addition to her normal day-to-day housework and shopping. One of the main reasons for absenteeism among married women, other than sickness, is the fact that time is required for washing. Where this facility has been provided, the married women have been instructed to bring their washing in a bag, together with a list of what the bag contains. The soiled clothing is handed in at a small receiving office attached to the works' laundry by the women immediately they arrive at the works, and it is washed and ironed so as to be ready for collection at the end of the day's work. This facility is greatly appreciated and it has been found (1) to reduce absenteeism and (2) to attract new entrants.

The Factories Act 1937, section 42, requires the provision of clean towels or other suitable means for drying, and it is generally agreed that the most satisfactory method is the provision of clean towels for the majority of factories. (*For alternative methods of drying see page 344 et seq.*) It is considerably cheaper for towels to be laundered in the works laundry.

Laundering of Protective Clothing.—Under the Dangerous Trades Regulations in the Bronzing, Chemical Works, Chromium Plating, Manufacture of Electric Accumulators, various Lead Regulations, etc., the Occupier is required to provide his employees with certain protective clothing. Outside these rather meagre requirements many firms, particularly those in the Engineering, Food and Chemical industries, lend employees some type of protective clothing when on dirty or dangerous work. It is essential for these articles to be laundered at frequent intervals, and the most satisfactory method, without doubt, is for the company to launder the clothing within the factory confines. Some of the advantages for the operation of a factory laundry are as follows: speed, economy and reduced wear and tear.

The normal procedure is for towels or clothing to be collected either overnight or first thing in the morning, sorted, checked for identification marks where necessary, washed and returned within twenty-four hours of collection.

The fact that clothes, etc., can be laundered within twenty-four hours often reduces the total number of garments in use by one third, in so far as

that, where an outside laundry is concerned, it is the normal practice to have articles in triplicate so that one set can be at the laundry, one ready for issue and the third in use. With a laundry in the factory where an eight- or twenty-four-hour service can be given, it is possible to dispense with one of these three sets without any loss of efficiency. Furthermore, when garments are being folded or ironed, any repairs that are necessary can be seen and the garments put on one side for sending to the sewing-room and properly repaired before issue.

From the cost facet the saving is very considerable; it has been possible to reduce the costs of the annual laundry bill by 30 per cent. or, in some cases, 50 per cent., and this is on installations which have varied in size from a very small works to one employing several thousand personnel.

The following examples can be quoted of actual expenditure in two factories during the course of a year :

A works laundry handling 250 lb. weight of clothes per day :	
Two women at 1s 6d. per hour, plus a proportion of welfare supervision .	£500
Steam	50
Power	40
Materials	50
	<hr/>
	£640
	<hr/>

The amount of a laundry bill with a contractor doing the washing for a similar amount of material would be considerably in excess of £2,500 per annum. This saving may appear to be fantastic and some word of explanation is required. In these direct costs no allowance has been made for depreciation or maintenance of plant or equipment, neither has the additional work of ironing been allowed for. If the majority of the work had to be ironed, it would probably be necessary to increase the charges by approximately 50 per cent. In addition, one heavy expense that is avoided is that of distribution. Distribution charges, i.e. collection and delivery, amount to a very large proportion of laundry expenses.

With the majority of factory work it is unnecessary for more than a "rough-dry" finish to be provided. Towels and smaller articles after leaving the drying tumbler only require folding, and the majority of boiler suits need only similar treatment.

A small factory employing only a few persons in food production had a laundry bill which amounted to approximately £2 per week, and a large domestic washer was purchased. This was able to cope with the washing and drying as it incorporated a small hydro-extractor and a hot-air drying tumbler. It was found that the operating costs when labour was allowed for amounted to approximately £30 per annum.

Equipment Required.—The basic equipment which is required will be

a washing machine, a hydro-extractor and a drying tumbler. The needs of a very small factory will be dealt with on a subsequent page.

In estimating the size of the equipment that will be needed it will be necessary to ascertain the dry weight of the clothes to be washed. This is comparatively easy. Small hand-towels weigh between two and four ounces, boiler suits, eight to twelve ounces, and all that is required is for several of the articles that will have to be washed to be weighed and then the loading capacity of the washer to be known.

A washing machine is able to handle approximately $3\frac{1}{2}$ to 4 lb. of clothes per cubic foot of inner cage capacity—e.g. a washer with a cage capacity of $9\frac{1}{2}$ cubic feet will take 33 to 38 lb. of clothes in a dry state and wash them in an hour. A standard type of machine when fitted with an interrupter gear is capable of handling woollen as well as cotton garments.

On removal from the washing machine, the garments are placed in a hydro-extractor or spinner, the inner cage of which revolves at a very high speed which causes the water in the clothes to be thrown out. After extraction, the clothes are placed in either a drying tumbler or a drying chamber. The latter method is satisfactory for a small installation, but it cannot be recommended for a laundry handling a large number of small articles or over 60 to 80 lb. of dry clothes per day unless mechanically propelled drying racks are fitted.

The drying tumbler has a cylinder into which the clothes are placed; the cylinder is then revolved whilst air enters the front of the machine at a low level, passes through a heater, upwards through the load and is exhausted at the top or back.

Where woollen materials are being dried, cold air is blown through the tumbler.

Such an installation (as detailed above) capable of handling up to 250 lb. of dry clothing in one day would cost as at 1947 between £650 and £850 excluding installation and building costs.

These basic machines are capable of washing and producing a rough-dry finish on such articles as overalls, towels, etc., but if it is necessary to iron table-cloths, overalls, etc., further machinery will be required. Where only a few articles require starching or ironing, it is difficult to justify the expense of large machines and it is probable that hand work would suffice.

A calender machine is equipped with steam-heated rollers and is used for ironing flat articles. They are available in various sizes from about 100 inches in length, and cost from £500 upwards.

Where large numbers of white coats require pressing, a garment-presser will have to be purchased. These are in various types, and the cost is from £200 upwards.

In addition to the machines, tables for folding and racks for storage are needed, as well as baskets and trolleys for the transporting of the clothes.

Layout.—The suppliers of the equipment are always prepared to advise

on the actual layout of the laundry and it is suggested that this expert advice should be sought and followed.

The layout of a laundry capable of handling the amount discussed in this chapter is shown below.

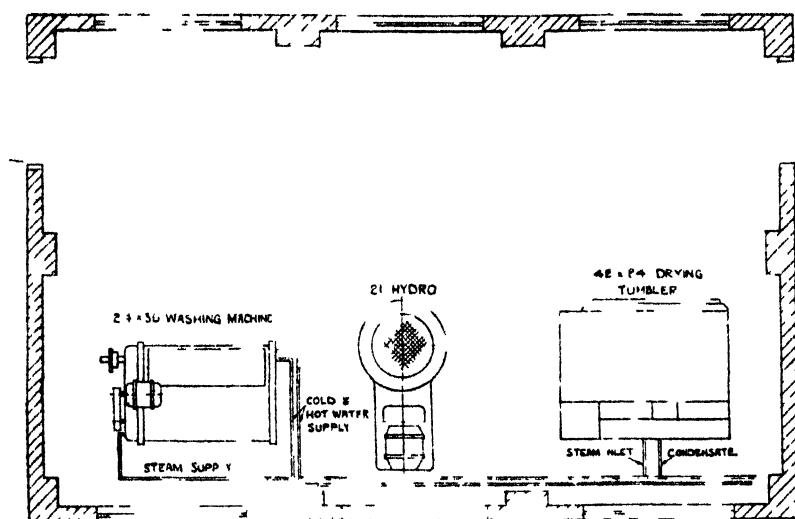


FIG 31—Works Laundry Layout

Driving and Control Methods.—In practically all cases, machines can be driven from counter-shafts or have electric motors fitted for belt or direct drive.

Except in the case of large washing machines, it is extremely expensive to have a direct-drive electrical washer, as the control panel is a very costly piece of equipment.

Small Laundries.—As mentioned earlier, a domestic washer is suitable for the small works. Various types of these are available, some being fitted with power-driven wringers and ironers.

A newer development is the domestic washer which incorporates a spinner for removing the water from the clothes. Final drying is, however, still required. These machines are very economical in power consumption and definitely effect considerable saving.

An economical installation for a small laundry handling up to about 150 lb. dry weight of clothes per day is the purchase of three machines of the type described in the preceding paragraph. A plant of this type involves a capital outlay of about £300 and the installation costs are very low. The only services required are electric power points, connections to the water supply, and a drain or sink into which a hosepipe can be led. Although the total outlay is low, all the facilities that one associates with a larger plant are

available. An additional point in favour of such an installation is that batch washing of different types or classes of articles is possible.

Services Required.—Steam will be required in practically every case and it is almost an essential to have a small supply of softened water for the washing machine. For a machine with a capacity of approximately 40 lb. of dry clothes per hour, the amount of soft water required for five hours' running per day will be 800 gallons.

Steam consumption for the washer and drier on a similar basis will be 500 lb. per day. Electricity is necessary for the majority of the equipment.

Labour.—It is well within the capacity of two women to handle a wash amounting to 250 lb. per day, and this would include the preliminary sorting and the final folding and sorting.

Detergents.—The detergents required would be as follows: soap, soda and possibly a bleaching agent.

It is, again, advisable to obtain expert advice on the detergents that would be used, in view of the materials which are actually being washed. As an example, 1 lb. of soap will be sufficient for 70 lb. dry weight of clothes.

Marking.—Various methods for identifying clothes can be adopted, and where company clothing or other articles are concerned a simple system is the sewing on to the article an embroidered number. These can be obtained from suppliers such as Messrs. W. J. Cash & Company, and if it is intended to wash certain articles on one day, the embroidered numbers can be obtained in a variety of colours which enable a quick check to be made. Other methods are writing in ink, either on the garment or on a tab stitched to the garment. In some cases, numbers are embroidered on the garments with red cotton by hand.

Safety.—Both washing machines and hydro-extractors can be extremely dangerous machines if not properly guarded and, in this connection, the Factory Department and the manufacturers have collaborated most closely and all reputable manufacturers supply machines with interlock doors on the washer and an interlocked cover on the hydro-extractor to ensure their safe operation by unskilled personnel.

THE TRUCK ACT

Although deductions from wages are still made in respect of goods supplied to their artificers or workmen by employers, such deductions are usually illegal. To understand why, the reader should study industrial history for the past several hundred years. From early days it has been a practice of some employers to pay their employees' wages in kind as well as in cash. In some instances these payments were wholly in kind, i.e. food, clothes, etc., of an equivalent value to the amount of the wages due.

This practice, if carried out honestly, can be of great benefit to the worker, as the employer can buy in large quantities and resell to the work-

man at cost price. The trouble was that this practice, instead of being used to the benefit of the workman, was worked to his disadvantage. The dishonest employer overcharged, supplied poor-quality goods, or gave the man an order on a "tommy shop" associated with the employer where similar treatment was meted out.

An example of this form of wage-payment can be quoted where a man's wages were 12s. 6d. per week and he was paid 2s. 6d. in cash and given an order on the "tommy shop" for 10s. The value of the goods he received was only 5s. and therefore he was in effect hired for 7s. 6d. per week, a saving to the employer of 40 per cent. on his wage bill.

Many attempts were made from the fifteenth century onwards to rectify this state of affairs, but until 1831 many loopholes were present in the legislation which had been enacted up to that time. All legislation was then repealed and the Truck Act 1831 was introduced. This Act still forms the basis of all Truck Legislation up to today, although amending Acts were passed in 1887, 1896 and 1940.

The Truck Act of 1831 can be summed up briefly as follows:

1. Workmen's wages must be paid in cash and not in kind.
2. When engaged, the contract must not stipulate for wages to be paid in kind or require wages to be spent in a specific manner.
3. If goods are supplied on credit by an employer to his workman, he shall not be able to recover the price.

Certain exceptions to the general provisions of the 1831 Act are made in section 23 of the Act which is given below:

"Nothing herein contained shall extend or be construed to extend to prevent any employer of any artificer, or agent of any such employer, from supplying or contracting to supply to any such artificer any medicine or medical attendance, or any fuel, or any materials, tools, or implements to be by such artificer employed in his trade or occupation, if such artificers be employed in mining, or any hay, corn, or other provender to be consumed by any horse or other beast of burden employed by any such artificer in his trade and occupation; nor from demising to any artificer (workman, or labourer employed in any of the trades or occupations enumerated in this Act) the whole or any part of any tenement at any rent to be thereon reserved; nor from supplying or contracting to supply to any such artificer any victuals dressed or prepared under the roof of any such employer, and there consumed by such artificer; nor from making contracting to make any stoppage or deduction from the wages of any such artificer for or in respect of any such rent, or for or in respect of any such medicine or medical attendance, or for or in respect of such fuel, materials, tools, implements, hay, corn, or provender, or of any such victuals, dressed and prepared under the roof of any such employer, or for or in respect of any money advanced to such artificer for any such purpose as aforesaid; provided always, that such stoppage or deduction shall not exceed the real and true value of such fuel, materials, tools, implements, hay, corn, and provender, and shall not be in any case made from the wages of such artificer, unless the agreement or contract for such stoppage or deduction shall be in writing, and signed by such artificer."

It will be noted that deductions can only be made for materials, tools or

implements if the artificer is engaged in mining. Deductions can also be made for food supplied, provided in all cases that:

(a) Such stoppage shall not exceed their real or true value.

(b) The agreement or contract for such stoppage shall be in writing and signed by the artificer.

The Truck Amendment Act 1887.—This Act extends the provisions of the earlier Act to all persons coming under the description of "workmen" as defined by section 10 of the Employers' and Workmen's Act 1875. This section includes all persons except domestic servants engaged in manual labour. The test of the description is whether manual labour is the major portion of the day's work.

From the foregoing, it will be realised that offences can easily be committed and that the question of giving credit and obtaining repayment by deduction from wages, e.g. when selling clothing as detailed above, should be approached with great care.

INDUSTRIAL CATERING

By H. C. J. Kelley

THIS article is intended to act as a guide to Directors, Personnel Managers and Welfare Officers regarding the planning, building and organisation of an Industrial Canteen. The word "Canteen" is used for the sake of simplicity, although caterers themselves are today advocating that the use of the word be discontinued and "Works Dining-rooms" or "Works Restaurant" be substituted. The old idea of a canteen savours of sawdust and bare tables, whereas, in these more enlightened days, Catering in Industry is reaching the level of a really first-class restaurant. Efficiency and a high standard of catering and service must be the aim of those responsible for feeding the workpeople of this country. Sufficient details have been included to give the Welfare Department some assistance in the general control of the Catering Service, which is, after all, a major part of Welfare Organisation.

This is not a cookery book. Recipes have purposely been omitted. There are plenty of good books on the compilation of menus and up-to-date recipes for the use of the caterer.

WHY HAVE A CANTEEN?

This question has been answered so many times since September 1939 in Government publications and announcements that one might easily conclude the provision of food and drink to factory personnel was merely a war-time expedient. A canteen or works restaurant costs a lot of money to provide and equip, usually presents great difficulty as regards staff, and gives to its organisers continual headaches and heartaches. So again we ask, "Why have a Canteen?"

Because experience has taught us that catering facilities in any working organisation, whether large or small, have proved to be a vital factor in the health and prosperity of such organisation and every member of its staff.

In most large towns there are cafés and snack bars and probably a civic restaurant, and one could say, "Why should we build a canteen when there are plenty of eating facilities within easy distance?" When a director plans a canteen, he begins to have a personal interest in the life of the employees; the servant becomes something more than someone who works.

People who spend all day or all night in factory or office may, in a very short time, become automatic in habits, and consequently lack that enthusiasm that is necessary to good productive work. It has been found that imme-

diately prior to lunch-time, production drops to its lowest and, on the other hand, after the rest and refreshment of the midday break, the worker is able to resume work with greater zest.

In years gone by, the factory worker brought with him to work his "screw" of tea and a packet of sandwiches or bread and cheese, etc., wrapped in a newspaper, which, after reposing in a factory overall pocket all morning, deteriorated considerably from the hygienic point of view. Somehow or other, quite unofficially, tea was brewed on the nearest gas-ring and food was surreptitiously eaten. This was, of course, known to all firms, who "winked the other eye" and did nothing about it. It is better, then, to realise the situation and to place the whole question of factory feeding on an official basis.

Quite apart from any Act of Parliament requiring the provision of canteens, let it be realised that it is a sensible thing to do. The worker is provided with a mid-shift "refresher," and can obtain a midday meal of good nourishing food at an inexpensive charge, without losing any of his precious time in travelling or a long wait in a restaurant queue.

It is interesting to note that in the Annual Report of the Chief Inspector of Factories for 1945, details are given of the growth in the number of hot-meal canteens since 1941 (see table below). The closure of some of the large munition works towards the end of 1945 accounts for the slight drop in the number of canteens at factories employing over 250 persons.

<i>Date</i>	<i>Factories employing more than 250 with Canteens</i>	<i>Factories employing less than 250 with Canteens</i>	<i>Docks</i>
December 1941	3,165	2,530	110
" 1942	4,340	4,141	160
" 1943	4,875	5,704	176
" 1944	5,046	6,584	179
" 1945	4,833	6,862	180

The noticeable growth of the "under 250" factory canteens is one of the noteworthy developments of the war. The Chief Inspector, in his introductory remarks, states, "From being a rarity, a canteen has become a commonplace in factories of any size."

Another argument in favour of the canteen is the fact that in these difficult times, and maybe for many years to come, the married woman is also out at work during the daytime, and it is often quite impossible for her to prepare a midday meal for her husband. The Education Authorities have already dealt with the children's midday meals under the "School Meals" scheme, and it behoves all employers of labour to provide for the wage-earner in a similar way.

Shift-workers present another problem. Meals for these people are of vital importance, since the meal-break may occur when local cafés may be closed, or when transport home is difficult or impossible.

When the meal is over, the worker is able to relax in comfort for the remainder of the break. This fact alone makes for better health and contentment among employees, and consequently greater efficiency in production.

Let it, then, be fully realised that catering facilities on the premises are an asset to the employer and employee alike.

Group Canteens.—In some towns, a number of small factories are found almost side by side—none of them large enough to warrant a large outlay in building and equipping a canteen. This also is the case on some Trading Estates. In cases like these, consideration should be given to a Group Canteen or Joint Catering Service. The larger the number of possible customers, the easier it becomes to cover the running costs. The firms joining such a scheme could share the initial outlay and maintenance costs in proportion to the number of people each firm employs.

DIRECT CATERING OR CONTRACTORS?

There should, I feel, be no need for much consideration on this point. Of course, it is better to make the Catering Department part and parcel of the organisation. In the past, many mistakes have been made. Directors of firms, not being caterers, often had the erroneous idea that "this canteen business" could be run by anyone with common sense, and appointed managers with little or no experience in catering. Consequently, the result was disastrous. The person in charge of a works catering organisation should be a specialist. An engineering firm would never dream of appointing a Works Engineer who was not a specialist, or an Accountant or Company Secretary who was not qualified. Industrial caterers are actually departmental managers; they work on an equal footing with other departmental heads—professional people on whom productive organisations rely for the efficient running of their businesses.

The practice of handing the canteen over to a firm of catering contractors is sometimes adopted, and may prove satisfactory in some cases. Naturally, the contractor must make a profit out of the canteen—how else can he prosper? In theory it may be argued that the better the quality of meals served, the greater the profit, but in actual practice this thesis is untenable. A contractor will naturally aim at personal profit, whereas a Welfare Officer, in the interests of his firm, will work for better meals for the worker and the question of profit in terms of cash would be of secondary importance. It should be decided at the very outset that the canteen is to be run by the firm for its own employees.

Be sure, then, to appoint a first-class person to take charge of this difficult job, for it is a very difficult job, requiring not only knowledge of food and the service of meals, but an outstanding personality and untold patience.

PRELIMINARY PLANNING

This is very important indeed, and it is wise to give the matter very careful thought before asking an architect to prepare any plans. Is it proposed to keep to a very simple Dining-room with the adjacent Kitchen and Store-rooms, etc., or is it to be built on more pretentious lines, with several Dining-rooms, Recreation Rooms, etc.?

The purpose of this book is to guide Welfare Officers in their deliberations, rather than to lay down any hard-and-fast rule. We will therefore endeavour to deal in some detail with all the pros and cons.

In most progressive business organisations, the employees are encouraged to run their own Sports and Social Club. The whole question of recreational facilities is fully dealt with in another part of this book, but there must always be very close co-operation between the Catering Manager and the Secretary or Manager of the Sports Club (*see page 402*), "Catering for Sports Clubs"). Experience has shown that it is most unwise to allow the canteen to be used for any kind of recreation or sports functions. In order to save building space, many factories have allowed the canteen to be used as a sports club in the evening. The floor has been cleared for dancing, dart boards fixed on the walls, and table-tennis tables erected. This is most unpractical. When the canteen staff arrives in the morning, its members are dismayed to find the tables stacked round the sides of the room, the floor covered with dust and paper, and the general debris of an evening's dancing or sport left for them to clear up before the day's catering duties can be commenced. Don't be misled by the promise that the Club members will clear up after them; their intentions may be good but, in practice, it never works! The Canteen Manager gradually finds himself responsible for the cleaning of a dirty building, which has been made dirty by people over whom he has no authority at all. Keep all dining-rooms exclusively for the purpose for which they are built; do not allow evening meetings to be held in them. The building can then be cleared and cleaned after each day's catering, and left spick-and-span for the next day.

It is very desirable that the canteen should be a separate building and not just a part of the factory. The smell of cooking should not be allowed to waft into the works or offices; neither is it advisable for employees to be able to watch tradesmen delivering the week's meat or fish or vegetables, etc. It should be run as a separate establishment in every way, and its manager and staff, although they are servants of the firm, should be treated as catering employees and not just another batch of factory hands. In this way they will take a greater interest in their work and bring credit to themselves and their employers.

If the firm is a small one, it might be decided that one good-sized dining-room is sufficient for all classes of employees, with, perhaps, a small room for directors and special visitors. If this be the case, space should be allowed

for future expansion. Alternatively, it may be found necessary to plan one dining-room for machine workers and another room for office staff.

The first thing to do, before any actual work on the building is commenced, is to estimate how many people will use the canteen. This cannot be judged merely by the size of the firm. Its distance from the residential neighbourhood and shopping centre is a very important factor, as is also whether the employees include a large percentage of married women who would not be likely to go home each day to cook a midday meal. A questionnaire sent to all employees would ascertain roughly how many would welcome the canteen and how many would use it. The percentage of juveniles should also be noted (*see page 416*). When these details have been tabulated, they will assist in deciding the type of service to be used.

In most factories it has been found best to use the "counter-service" method, as this is very quick and efficient, and easy to check. Sometimes this method is adopted for the main canteen used by the factory employees, and a waitress service, with small tables, is instituted for office staff at a slightly increased cost.

Consideration, however, might be given to the following idea, which, up to now, has not been generally practised. When one dining-room is allocated to factory employees and a separate room to staff, an irritating argument occasionally arises on class distinction, and the man in overalls accuses the "white-collared" man of snobbery. He feels he is being patronised. All Welfare Officers will wish to squash this idea. Co-operation between employer and employee is advocated in what is today known as Industrial Democracy; Joint Production Committees bring Planners and Operators into close daily contact. Why not, therefore, do away entirely with the idea of dividing "Staff" from "Works" in the canteen? An executive dining-room is, no doubt, essential, but for everyone else the ideal layout is a quick-serving cafeteria in one room and a restaurant in another room—both open to all employees. Of course, people in overalls or greasy working clothes would not be allowed in the restaurant, but the main distinction is not "Staff" or "Works," but the type of meal served.

Caterers in Industry for many years have realised that with all their thought and ingenuity, canteen meals tend to become rather dull and uninteresting. Management and workers alike have impressed on them that it is imperative to serve everyone in the shortest possible time, and at the lowest possible cost. The caterer, therefore, has purchased his commodities with this end in view, and has provided a main meal each day which has been wholesome and nourishing and, no doubt, well cooked, but which allows of no choice—"take it or leave it." Managements should do all they can to encourage the canteen organisation to depart from this old-fashioned idea. We want to encourage all employees to take an interest in their meals. "Variety is the spice of life," and variety in daily food aids digestion and helps everyone to enjoy the meals to the full. If the management will give

careful thought to these suggestions, it will help them greatly when instructing the architect to prepare plans.

The interior of the canteen should differ entirely from any other part of the factory. When an employee comes for his meal, he must not feel that he is moving from one part of the factory to another. Many firms have built just another factory block and equipped it as a canteen. This is a great mistake. Give the worker something different to look at—different types of ceilings and walls and windows—different chairs and tables.

A dining-room furnished with curtains and wall decorations always looks homely and comfortable. The colour and material for curtains will depend on the size of the windows and the general scheme of decoration. Framed pictures are not advisable, as dust gathers behind them and it is difficult to keep them dusted regularly. Mural paintings are often most attractive, but if the colour scheme of walls and tables is tastefully carried out, the simpler the style of decoration the better. The canteen staff should wear different-coloured overalls from those usually worn in the factory. Even a different type of cleanser or disinfectant should be used. This may seem to be rather overdoing it, but floor cleansers have a certain odour, and it is surely a good thing, when entering the place where the midday meal is to be eaten, to be immediately conscious of a clean, refreshing "fresh" atmosphere.

All these points must be considered to enable the management to determine its policy as regards the canteen about to be built and the service to be supplied to the employees. Once this policy is decided upon, the actual work of "Building the Premises" can commence.

BUILDING THE PREMISES

Having considered the type of service to be adopted, the number of potential customers and the possible future need for expansion, the size of the dining-room or rooms can be decided. If an area of 9 square feet per person is allowed, there will be ample space for gangways. It must always be remembered that in the majority of works canteens everyone comes to meals at once, and therefore plenty of room must be allowed for people to queue up in an orderly way. The following plan is of a very simple building with total seating accommodation for 500.

However small the canteen and however few the employees to be catered for, it is essential that certain accommodation be provided, in addition to Dining-room, Kitchen space and Service Counter, i.e. Dry Stores, Vegetable Stores, Refrigeration, Wash-up, Manager's Office and Staff Cloak-rooms.

In the plan on p. 370 it will be seen that all dining-rooms are on one side of the kitchen. From a service point of view, this is more economical as regards staff than if the dining-rooms are planned on both sides. The entrances to the dining-rooms are at the end farthest away from the serving-counter. This allows most of the diners to get inside the building in the

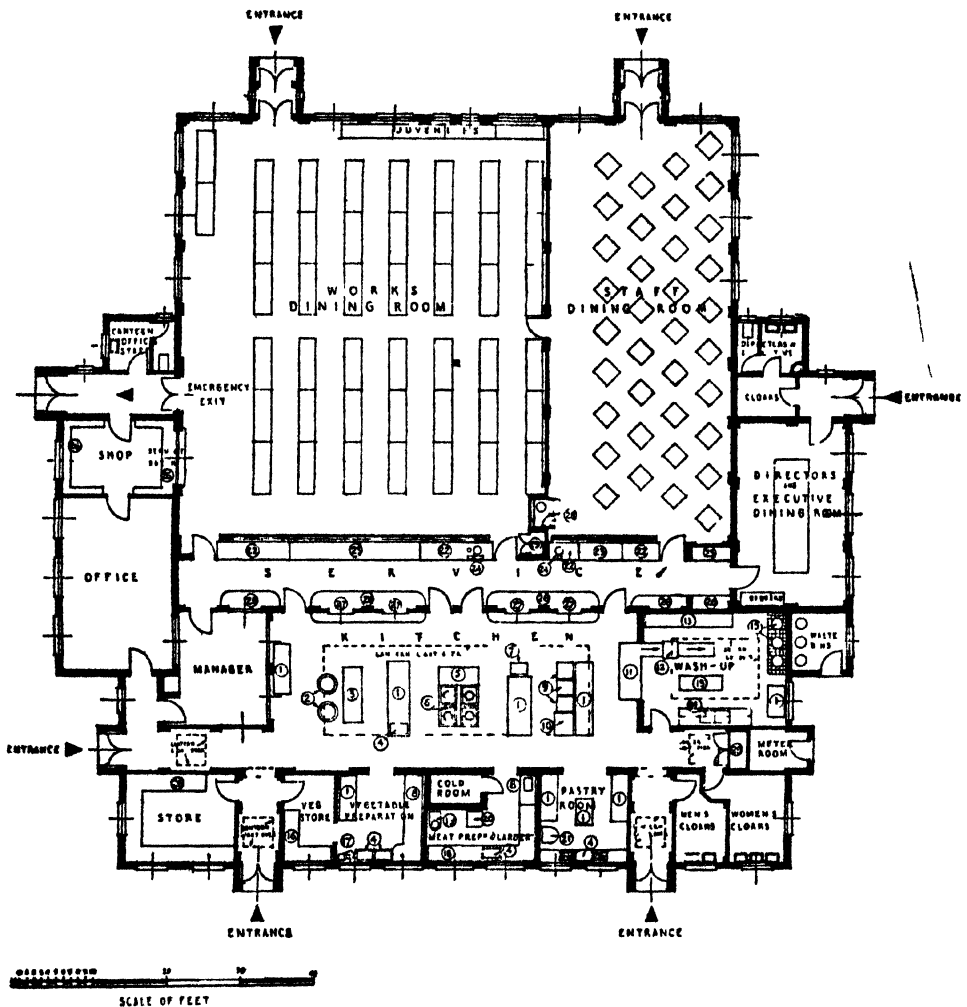


FIG. 32.—Layout for Canteen to accommodate 500 persons. (Designed in collaboration with H. C. J. Kelley, by J. R. Rogers, Registered Architect.)

KEY TO ABOVE

- | | | |
|-------------------------------|------------------------------------|-------------------------|
| 1. Table. | 11. Receiving and Stripping Table. | 20. Chopping Block. |
| 2. Boiling Pans. | 12. Dishwashing Machine. | 21. Mixer. |
| 3. Fish Fryer. | 13. Stacking Rack. | 22. Cold Counter. |
| 4. Glazed Sink. | 14. Drainer and Galvanised Sinks. | 23. Hot Counter. |
| 5. Hot Closet and Bain Marie. | 15. Waste Bins. | 24. Water Boiler. |
| 6. Four-unit Range. | 16. Floor Racking. | 25. Hot Plate. |
| 7. Grill. | 17. Potato Peeler. | 26. Shelf. |
| 8. Slicing Machine. | 18. Bench. | 27. Service Hatch. |
| 9. Wet Steam Ovens. | 19. Mixing Machine. | 28. Portable Cash Desk. |
| 10. Pastry Oven. | | 29. Cupboard. |

shortest time during bad weather. Nothing is more aggravating or more injurious to health than to come out of a hot factory and have to wait in a crowd outside the building.

Do everything possible to provide for a really good-sized entrance, so that there shall be no crowding. There should always be an Entrance Hall or, at least, double doors. The outside door should never open direct into the dining-room itself, in order to prevent draughts. It can sometimes be arranged for a very large entrance hall to contain Toilets, but it is really better if a separate Lavatory Block is built adjacent to the canteen, but not actually inside it. Care should also be taken to ensure that the entrance is properly lighted. In the winter-time, especially, it can become very dangerous (as well as very dirty) if there is no lighting, or if only poor lighting is provided.

The lighting of the dining-room itself depends, of course, on the general scheme of decoration, but it should always be bright. Do be sure that the lights are low enough to reach with a pair of steps for the purpose of changing bulbs. The canteen staff should be able to look after a little job like this, but it becomes impossible if the lamps are placed well out of reach. An electrician will then have to be fetched, maybe from the other side of the factory or from some other work, to do a small job that could easily have been attended to at once by a member of the canteen staff. Don't forget to install a good-sized clock in the kitchen and in each dining-room. Punctuality is important to everyone.

The type of floor rather depends on the size of the room and the type of worker using it. If people are leaving a factory where they have been treading in oil or grease, they cannot help bringing dirt and swarf on their boots into the canteen. If linoleum or rubber flooring is used, it will very soon be cut up with metal chippings, and will get very dirty and greasy. The same applies to ordinary wooden floor-boards. A floor of terrazzo or some other composition is recommended, as it is so easily cleaned—a very important item, as more often than not the cleaning has to be done by female labour. In a room which will be occupied by office workers or those with fairly clean jobs, linoleum could be considered. A hard-wood block floor is good and always looks nice, although it tends to become slippery and may, therefore, cause a few mishaps.

The kitchen floor should have a non-slip surface. This applies, of course, also to the wash-up and space for service. It should also be remembered that the kitchen staff have to stand for many hours at a stretch, and the floor should be of such a texture that it will not "draw" the feet.

The walls of the kitchen should be tiled—at any rate to about 5 feet high; in the wash-up the tiles should be carried even higher, and the floor made to slope very slightly to the drains, so that it can be hosed down at intervals.

The swill bins will present a problem unless proper arrangements are made at the outset. Unfortunately, in the past, this question has been over-

looked in the great majority of cases and, consequently, bins containing swill and waste are left in odd corners of the kitchen until the pig-swill man comes to collect them. In hot weather they cause offensive smells and breed vermin. With careful and thoughtful planning, these bins need never be left in the kitchen. A space should be specially built for them outside the kitchen, and the swill is then deposited in them through a chute. The bins are collected from the outside space and replaced by fresh ones, the space outside being hosed down daily.

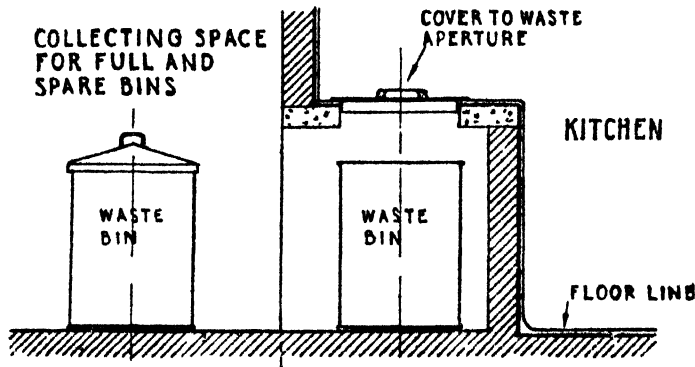


FIG. 33 — Sketch showing Disposal of Swill.

Everything should be done to keep the floors and walls clean and spotless.

The question of adequate ventilation must be left in the hands of an expert, but it is so essentially important to see that there is plenty of fresh air in the kitchen that the Welfare Officer would be well advised to keep in close touch with the architect in the early stages of building. Electric fans must be installed, especially where there is "deep-fat" frying, so that the heavy fumes can be carried away and not hang about the kitchen.

Refrigeration.—In modern establishments, the question of refrigeration is of paramount importance. A Cold Room should be installed to keep food in good condition. If funds will allow, it would be wise to divide this into two sections, so that dairy produce—milk, butter, fats, etc.—can be separately cooled. Modern research on the subject of quick-chilled foods points to the necessity for providing a refrigerated counter, just as we now have hot-plate counters. The caterer must look to the future and study modern developments, and Management and Welfare Officers would be well advised to encourage their Catering Manager or Manageress in this respect.

Store-rooms.—A good buyer will keep a good "store." Therefore, the Stores for dry goods must be of a reasonable size, with plenty of shelving and bins; also a space for the storekeeper's desk. In small establishments, the stores will probably be controlled by the Manager as it may not be necessary to employ a storekeeper, but a desk or table in the stores is still necessary to note items received and issued.

The Stores must be as near to the kitchen entrance as possible. Nothing comes into the kitchen without the knowledge of the Storekeeper.

The next room is the Vegetable Stores. Deliveries of case goods and vegetables can, therefore, be taken into Stores with as little carrying as possible.

The Vegetable Stores must be equipped with racking, so that sacks of potatoes and vegetables are not placed on the floor itself. Air must be allowed to pass underneath to keep vegetables in good condition.

Manager's Office.—In our plan we have shown this at the end of the kitchen. It should have plenty of glass to allow of easy supervision. (In larger canteens an office in the kitchen will probably be required for the Cook or Chef.) Do not make this office too small. The manager often has people to interview, and if there is a Canteen Committee, it will sometimes meet in the manager's office.

Canteen Staff Office.—In all but the smallest canteens, it will be necessary to employ some clerical assistance for the manager. Do not expect your manager to be a clerk—his job is to manage, plan and supervise. In these days there is a good deal of clerical work to be done, so allow enough space for more than one assistant.

Loud-speaker System.—Most firms are now equipped with a loud-speaker system, to broadcast "Music While You Work" or for factory announcements. If it is possible, the Catering Manager should have a microphone in his office, with loud-speakers in each part of the canteen building. Apart from broadcasting the 1 o'clock news, it may be necessary to make some special works announcement during the meal-break, but more important than this, it provides the Manager with a splendid opportunity to keep in close touch with his customers. In the early years of the war, Lord Woolton, then the Minister of Food, broadcast to the nation on several occasions. He explained the difficulties and dangers of the situation; and the splendid way in which the people of this country cheerfully endured the many food restrictions was due in a large measure to the fact that these candid and sincere broadcasts enabled them to appreciate the difficulties. Similarly, if the Canteen Manager is given the opportunity of speaking to his customers, it will have a psychological effect which will make for the smooth running of the establishment. Should there be any difficulties with food—a sudden drop in the gas pressure, a shortage of staff, etc., etc.—it will be accepted cheerfully if explained in this way. A microphone equipment is a very great asset to the Manager.

Food-preparation Rooms.—Even in a small canteen, it is essential that separate places are allotted for vegetable preparation and meat and sweet preparation. It is a good plan to build separate rooms leading from the kitchen on the opposite side to the serving counter.

Staff Cloak-rooms.—Give the staff good cloak-room facilities. If possible, arrange for a staff dining-room, and in the male and female cloak-rooms fix plenty of wash-hand basins with a good hot-water supply; also provide

nail-brushes as well as soap. If these rooms can lead from the kitchen, it will help in the supervision of staff. It is very annoying to find that just before the midday rush period, the canteen staff have disappeared to "tidy up." If staff rooms are close at hand, supervision is simplified.

Wash-up.—Allow plenty of space for washing up. It is a fairly simple matter to extend a dining-room, but not so easy to enlarge the kitchen, so some forethought is necessary when building. It is false economy to make the kitchen and its adjacent rooms too small.

Home-made Cakes and Pastry Preparation.—It will be found most advantageous to supply home-made cakes, and in our plan on page 370 is included a pastry oven. Ovens of this type can be used for almost any kind of baking or roasting. In a small canteen it will probably not be necessary to employ a pastrycook, but if the canteen is of a reasonable size it is a sensible plan to engage a person who can undertake the cooking of pastry and rolls for the sweet course, and also cook a daily supply of cakes for tea. The sales will always be good, and will show a nice profit for the canteen. If the firm has good prospects of growing, the instalment of a special pastry oven and the employment of a pastrycook is a first-class investment. A separate room should be allocated for this purpose.

Canteen Shop.—Most firms will allow cigarettes and chocolates to be sold, as, apart from being a service to the employees, it is a good source of profit. In some parts of the country, where factories are some way from the shopping centre, the Canteen Shop is run on a bigger scale and sells such things as razor blades, boot polish, aspirins, etc. The size of the shop, therefore, will depend on the policy of the firm.

In addition to the essentials mentioned at the beginning of this section, these further suggestions should all be carefully considered when "Building the Premises."

EQUIPMENT AND LAYOUT

The arrangement of the Canteen Equipment, which includes tables and chairs as well as the actual cooking equipment, is of particular importance. If the original layout is done without careful planning, the customer will often suffer many unnecessary inconveniences, the work of the staff will be increased, and the Manager will meet an accumulation of difficulties that could very easily have been avoided.

The illustration on page 370 shows the equipment laid out in a manner that will allow of easy movement in the dining-rooms, and good supervision and control in the kitchen.

Dining-rooms.—The tables should be so arranged as to allow a good clear gangway from the entrance to the serving counter. If they are rectangular in shape, they should be placed at right angles to the counter—not parallel. An employee, having got his meal, can get to his seat in quicker time and

with a good deal less trouble. The cashier's desk is placed near the counter and can be either movable or fixed, according to the type of service adopted.

If it is decided to institute a waitress service with tables for four or six persons, the question of layout is a little different, but it is still very necessary for the staff to be able to move from the service counter to the tables with as little walking as possible.

In rooms set apart for directors or executive staff, it is often decided to have one large table. This helps to create a friendly atmosphere between executives themselves, and between the firm and its guests. The question of "speed" in service is not quite so important with a small number of people as with the larger numbers dealt with in the general dining-rooms.

It is a good idea to arrange for one or two trolleys with hot and cold beverages to move about the canteen during the meal-break. This will relieve the service at the counter, and is well worth the experiment.

The main dining-room is equipped with tables, each to seat eight people. The actual size and shape of the tables can only be decided by the firm itself; it depends largely on the type of work done and the type of employee. Do not buy tables with plain wooden tops. They are difficult to keep clean, and will, no doubt, splinter in time. Some canteens have been equipped with tables of heavy galvanised iron with white enamel tops. These are certainly very strong and lasting, and the tops are easy to keep clean, but they have a good many disadvantages. They are noisy, and savour of an "Institution." The whole idea behind dining-room equipment is to make the diner feel "at home." A white-enamel-topped table is hardly the thing today, unless durability and cleanliness are the sole consideration. The best kind of furniture is the "nesting type." It will probably be more costly than any other kind, but it is well worth the additional outlay. It is strongly constructed of steel tubing, rust-proofed and stove-enamelled in a variety of pleasing colours. The tables are fitted with tops of inlaid linoleum, inlaid rubber or "Warerite" plastic sheets, all of which are simple to maintain in a high state of cleanliness and efficiency.

The chairs have seats and backs of wood or plastic slats. Chairs fitted with stretched canvas are really the most comfortable and popular, and are available in several colours. They are extremely hard-wearing, but are bound to become soiled if used by employees wearing dirty or greasy overalls.

Firms now appear to be fully alive to the desirability of making their dining-rooms as attractive as possible by means of colour, not only in the decoration of the walls, but also in the furniture; and most pleasing effects can be obtained with the range of colours that are offered by the manufacturers of this type of furniture.

The staff dining-room is furnished with tables to seat four people. Chairs with canvas seats and backs are the best for this room.

The smaller room for directors and executive staff should have a carpet on the floor, and the furniture should be of good quality and design. The

table appointments should be of the very best quality, as it is the custom to entertain the firm's guests here.

The question of table-ware is a most difficult problem in these days. It is almost impossible to obtain in any quantity, and the designs are rather limited. It is also a costly item, as breakages are bound to occur, however careful the staff may be and however good the organisation is. Crockery, however, must be purchased, and it is wise to keep as large a reserve as possible. Cups and plates with patterns are unnecessary—even if they could be bought. Plain white or cream crockery of a good quality is best. In addition to the different sizes of plates for meat, sweet and cheese, it is as well to get a supply of small bowls or deep plates for the service of milk puddings or porridge, or anything that is at all "runny."

Knives should be of stainless steel, with blade and handle all in one piece, so that the handles are not damaged during washing up.

Spoons and forks of nickel silver are quite satisfactory.

Salts and peppers of strong glass, with screw tops, are the most satisfactory, with ordinary open-topped mustard pots.

The following list will serve as a guide when ordering crockery, cutlery, etc., for 500 people :

CROCKERY

60 doz.	Plates, 9½ in.	
60 "	" 8½ in.	
60 "	" 6½ in.	
100 "	Cups and Saucers	
60 "	Fruit Saucers	
3 "	Teapots, 1's.	
3 "	" 2's.	
3 "	Hot-water Jugs, 1's.	
3 "	" 2's.	
3 "	Milk Jugs, 1's.	
3 "	" 2's.	
3 "	Sugar Basins	
3 "	Slop Basins	
6 "	Cups and Saucers (Special for Senior Staff)	
1 "	Teapots, 2's.	} Special quality for Directors and Firm's Visitors
1 "	" 4's.	
1 "	Hot-water Jugs, 1's.	
1 "	" 2's.	
1 "	Milk Jugs, 1's.	
1 "	" 2's.	
1 "	Slop Basins	
1 "	Sugar Basins	
6 "	Cups and Saucers	
6 "	Tea Plates	
6 "	Trays	
2 gross	Tumblers	

CRUETS

100 Salt Pourers
100 Pepper Pots
100 Mustard Pots and Spoons

CUTLERY

60 doz. Knives
60 „ Forks
60 „ Dessert Spoons
80 „ Tea Spoons

Cutlery for Executive Dining-room.—This will depend on numbers, but should be of good quality and include Fish Eaters, Soup Spoons, Table Spoons and Vegetable Dishes.

Fuels.—A decision will have to be made as to which method of cooking will be used—Electricity, Gas, Solid Fuel, Steam, etc. If steam pressure is available in the factory, its supply to the kitchen must not be neglected. Continuous hot water, both for hot beverages, cooking and washing up, can be supplied very economically by steam pressure, but it is always wise to have an alternative in the event of the system failing in any way. The decision regarding the actual fuel to be used in cooking will, no doubt, be influenced by the size of the canteen, the service demanded of it, and the district in which it is situated. To assist in making the decision, the following points should be considered.

It can be stated with certainty that whether electricity, gas or solid-fuel equipment is installed, the design of modern cooking appliances is excellent in itself, and attractively finished. Vitreous enamel, stainless steel or chromium are clean, rust-proof and a vast improvement over the old type.

Electricity.—No space is required for fuel storage. It is simple and accurate in its control of heat. It ensures exact temperatures for boiling, grilling, roasting and baking, and cooking processes can be repeated any number of times with exactly the same result. It is merely a question of a switch or thermostat setting. There are no fumes or smoke, and the heat is always constant. Outside weather and atmospheric conditions have no effect on an electrically operated kitchen. The installation is merely a question of wiring and does not need to conform with any existing plan of chimneys or flues. Electrical equipment can therefore be installed entirely from the point of view of easy working and labour-saving. One of its distinct advantages is that equipment such as hot-water boilers, hot closets, grillers, etc., can be moved from place to place quite easily and plugged in. A change of position presents no question of fresh installation.

Gas.—No space is required for fuel storage. Gas is always “on tap.” It provides immediate heat and can cope quickly with the demands made on it, whether great or small. It is simple to use and requires no experience to give satisfactory results. Gas is very flexible and can be controlled to a fine degree when boiling, frying, simmering, etc. The gas consumption can be

reduced at slack periods, and brought into full use in a second; it can be directly proportionate to the number of meals served. It can be put under automatic control and is absolutely reliable. Gas undertakings now quote advantageous prices to large-scale consumers. Gas ranges can be had with solid tops, and ovens are heated externally or internally, have thermostats or not, and doors which open downwards or sideways, according to choice. Grillers are available for constant or intermittent use, with top heating, bottom heating or heating from both sides. All kinds of gas equipment can be supplied.

Solid Fuel.—Modern solid-fuel cookers are well insulated, and fireboxes are fitted with doors which prevent loss of heat by radiation from the fire into the kitchen. They also prevent air from entering the fire from the outside and so avoid fuel being burnt wastefully. In olden days, a kitchen equipped with solid-fuel ranges was excessively hot. This is now avoided by the insulation of the cooker. Solid-fuel cookers are definitely very economical to use, although their initial cost is high. The modern cooker is continuous-burning and is ready for immediate use and, according to many famous chefs, cooking in a solid-fuel oven brings out the natural flavour of the food and reduces the loss of weight—particularly in the case of a joint—so often experienced when other fuels are employed.

It will probably be to the advantage of the kitchen planner to install more than one type of cooking equipment, to obtain the very best results.

Fuel Economy.—The fact that for some years past economy in the use of fuel has been possible without loss of efficiency, shows how necessary it is to keep a constant watch on the fuel meters. Kitchen staff can be very wasteful. It is not usually deliberate, but thoughtlessness develops many bad habits unless the Catering Manager continually checks up. The gas ring is lighted in case it is wanted; pots are left to boil violently with the gas flaming all around. Meals should be planned, as far as possible, so that ovens can be fully used. It is extremely wasteful to light up a large oven for an "odd" dish. Lids on pots and pans will save up to 15 per cent. of time and fuel. Keep all utensils clean, as dirt is a fuel-waster; have the meter checked at regular intervals and keep a graph of fuel consumption.

Kitchen Equipment.—It will be noted in our plan that the kitchen equipment is grouped in sections as far as possible. The vegetables, after preparation, are near to the steamers or friers in which they are to be cooked. In the centre of the kitchen is the main cooking range, and close by is the meat-preparation room and cold room. The position of the wash-up is always difficult as it must receive "dirties" from every quarter, but it can be arranged, at any rate, that trolleys containing dirty plates, etc., from the dining-room can get to the wash-up without having to cross the kitchen. The equipment in the wash-up itself is arranged so that plates can be cleared as soon as they arrive, then washed in sink or machine, and the clean plates stacked in a place that is easily accessible.

No hard-and-fast rule can be laid down regarding the exact placing of equipment, but one should aim at an arrangement which allows of delivery of goods without crossing the kitchen, and to provide enough space for the work to be carried on with as little "fetching and carrying" as possible, so avoiding both loss of time and energy.

The following appliances and utensils are recommended to equip the kitchen; and although this list is based on a figure of 500 diners, should it be found necessary to enlarge the dining-room or serve increased numbers in more than one sitting, the heavy-duty equipment would not need to be enlarged in any appreciable way. It would probably deal with any number between 500 and 1,000.

KITCHEN APPLIANCES

- 4-oven Solid-top Range, each oven 24 in. by 15½ in.
- Bain Marie on the end
- 3-pan Fish Fryer, each pan 24 in. by 18 in.
- 2 40-gallon Boiling Pans
- 4 Steaming Ovens, each oven 24 in. by 18 in. by 24 in.
- Hot Closet for the Works Canteen Counter
- " " " Staff
- 4 15-gallon Bulk-type Water Boilers for tea-making
- "Jackson" Water Boiler, 200-pint per hour, gas-heated
- Baking Oven with 4 baking chambers

COOKING UTENSILS

- 1 tinned-steel Stockpot fitted with tap, strainer and cover, 16 in.
- 2 " Consommé Pans and covers, 16 in. by 9 in. deep
- 3 " 12-in. Stewpans and covers
- 3 " 10-in. " " "
- 3 " 8½-in. " " "
- 2 " 7-in. " " "
- 2 " Frypans, 16 in.
- 1 " " 14 in.
- 1 " " 12 in.
- 2 " Omelette Pans, 10 in.
- 2 all-black wrought steel Fish Fryers and drainers 24 in.
- 3 tinned-steel Colanders, 18 in.
- 3 " " 14 in.
- 12 tinned iron Ladles, assorted
- 1 Sieve Ring, 16 in.
- 3 Wire Bottoms for Sieve Ring in fine, medium and coarse
- 12 tinned-steel Oven Pans, 20 in by 20 in.
- 12 tinned-iron Spoons, assorted
- 9 enamel Mixing Bowls, 3 each 20 in., 18 in., and 16 in.
- 15 enamel Pie Dishes, 3 in. by 12 in., 6 in. by 14 in., 6 in. by 16 in.
- 12 enamel Butcher's Trays, 20 in.
- 6 enamel Jugs, 8 pints
- 6 " " 4 pints
- 4 gross aluminium Pudding Basins, 3 in.
- 24 enamel Pudding Basins, 6 each 8 in., 9 in., 10 in., and 11 in.
- 2 tin Flour Dredgers

- 2 tin Sugar Dredgers
- 3 tin Gravy Strainers, 7 in.
- 1 tin Seasoning Box
- 1 bread and cheese Grating Machine, large size
- 2 hardwood Pastry Boards, 27 in. by 17 in. by 1 in.
- 2 „ Chopping Boards, 24 in. by 18 in. by 2 in.
- 2 pastry Rolling Pins
- 1 „ Scraper
- 3 „ Brushes
- 12 Wood Spoons, assorted
- 1 tinned-wire Slice, 8 in.
- 12 wire Whisks, assorted.
- 6 wire Frybaskets, 3 each 8 in. and 11 in.
- 3 extra-strong wire Vegetable Ladles, 9 in. dia. by 24 in. handles
- 1 hotel-size Potato Mashing Machine
- 1 28 lb. Scales and Weights
- 1 Spring Balance, 60 lb.
- 3 cook's Forks with brass guards
- 1 Palette Knife, 8 in.
- 1 Ham Slicer, 12 in.
- 1 Beef Slicer, 12 in.
- Smaller French Kitchen Knives
- 1 Carborundum
- 12 Potato Peelers
- 1 pair Kitchen Scissors, 8 in.
- 1 Meat Saw, 16 in.
- 1 bow Meat Saw, 16 in.
- 3 Apple Corers, reversible, stainless
- 2 24-in. tin Fish Kettles
- 24 roll Pudding Moulds, 16 in.
- 6 tin Fish Slices
- 6 tin Egg Slices
- 1 mechanical Can Opener
- 12 Yorkshire Pudding Pans, 22 in.
- 1 Chip Potato Machine
- 1 Economy Slicing Machine
- 1 Soup Machine, complete on stand with 1 perforation
- 3 extra Baskets for chips, to fit Fish Fryer
- 1 Meat Chopper
- 2 gross 8-in. Plate Rings
- 1 2-compartment Chip Scuttle
- 1 1-compartment „ „
- 4 chip Shovels
- 2 30-in. galvanised Baths
- 4 12-in. „ Buckets
- 1 galvanised Dustbin, 36 in. high
- 8 „ „ 30 in. „
- 8 10-pint enamel Teapots
- 6 Bain Marie Pans

SUNDRIES

Brushes, Mops, Glass Cloths, Swabs

Labour-saving Machines.—It is also recommended that a number of up-to-date machines be purchased which will be advantageous in many ways. There is always some question as to whether it is advisable to add a "Dish-washing" Machine. The fact that most large establishments now have one is some proof of its efficiency. No machine will guarantee to remove dried mustard or egg stains, and burnt-on gravy marks, but it can be said with certainty that crockery and cutlery will be washed with cleaner water than is usual in the average washing-up sink, and the makers claim complete sterilisation. A "Mixer" is almost essential, and a "Mincer Attachment" is most useful. A Meat Slicer and Bread Slicer should also be included. There are many more of these machines, and all have their various uses. A canteen that is really up to date will want as many modern appliances as possible.

Maintenance of Equipment.—If the directors of a firm are prepared to equip their canteen with expensive machines, it is the duty of the Canteen Manager to see that they are looked after. The equipment specially bought to save labour can be the cause of great annoyance and inconvenience if it suddenly refuses to function for lack of oil. Machines, when first delivered, are usually accompanied by instructions for fitting and maintenance and it is often possible to arrange a contract with the suppliers to "service" their equipment at regular intervals. It is advisable to make such an arrangement, but that does not absolve the Works Maintenance Department from all responsibility. If a stone gets under the plate of a potato machine, it may mean not only a repair job, but no potatoes for dinner. The maintenance of kitchen equipment by a Works Engineer should be considered a matter of high priority.

STAFF

The official, or officials, responsible for the engagement of Canteen Staff would be well advised to treat this matter very seriously. It cannot be denied that for many years the type of staff engaged for canteens has been of a very low standard. During the years of war it was realised that the maximum production of armaments was essential, and engagement of production labour had first priority. On the other hand, the factory worker was guaranteed good canteen service, and the Government made it compulsory for firms employing a minimum of 250 people to provide a canteen. Yet, when applicants presented themselves for employment, if not quite physically or mentally fit, they were immediately engaged for the canteen! This is no exaggeration—over and over again Industrial Caterers have complained officially and unofficially of this lack of good staff. In the future, therefore,

do take great care to see that only the best type of worker is engaged for your canteen. The work is hard and requires physical fitness of a high order. Only the healthiest and the best type should be sent to the canteen.

The canteen worker is usually expected to work when others are off duty. When the factory closes, the operator or clerk expects to be able to buy a meal in the canteen. When the Sports Club holds a dance or sports day, the canteen is expected to provide refreshments. Few people ever think that the canteen staff would themselves like to be taking part in these jollifications.

The Caterer's job is to be cheerful and to give service to others at all times. That is why it is necessary to engage good staff who will take an interest in the job and make it their career. For this reason we suggested in the paragraph "Direct Catering or Contractors" that a first-class Manager be engaged. Make this appointment before the canteen is built so that your catering expert is consulted on each move as the building progresses. He must then be allowed to interview each applicant for employment, and his decision to engage or not should be upheld. In this way a staff will be enlisted which will not only work well but will respect their Manager as head of that department.

There are certain classes of people who must never be employed in the preparation of food. In factories where there is a permanent Medical Officer, all applicants for employment will be examined before engagement, but in smaller firms, where no such facility exists, the Welfare Department should be quite sure that any one engaged in the canteen should be quite free of any communicable or objectionable disease, particularly tuberculosis or any disease of the chest, skin disease or proneness to skin disease. Care should also be taken to exclude workers suffering from diseases of the respiratory passages and sinuses, dental and oral diseases, active ear diseases and septic infection of the hands.

If it is possible to arrange for a periodical inspection of the hands of all canteen workers, a good step forward in Welfare will be made. It can be done without any embarrassment if instituted in the initial stages as part of the ordinary business of a factory canteen.

The number of staff which will be required depends entirely on the service demanded. Certain "key" staff must be appointed in any case. In very small firms it may be practicable to have a Cook-Manageress, but it is now generally realised that the catering profession as a whole is working for a higher standard of catering, and industry would be well advised to appoint someone to manage and another person to cook. The two jobs should not be amalgamated except in the case of sickness or other emergency. A good cook should, therefore, be the first appointment after the Manager. Money is made or lost in the kitchen. It is not economy to engage the cheapest cook, neither is it sensible to pay the cook in comparison with a charge-hand in the factory. If the factory is a large one, it may be desirable

to have a male cook. He will require a good wage, but he is a specialist and should repay in results the high wages demanded; in most average-sized establishments, women cooks have proved very satisfactory. What is wanted, of either sex, is someone who realises that it is he or she who pleases or displeases. Someone who is not too conservative in ideas, who will try out new dishes—not with reluctance but with interest and a desire to give the customer something fresh. It is surprise and variety that please.

A storekeeper is also essential. In small canteens this job may be combined with that of assistant to the Manager, but it is most advisable to have someone whose main occupation is the control of the stores.

We now want an assistant cook, who, if not actually cooking, will act as a general kitchen assistant. Also, washers-up and cleaning staff, according to the size of the canteen and the business done.

As previously stated, the number of general canteen assistants cannot be defined according to meals served. Firms who serve Tea and "Snacks" in the factory itself will require a larger staff than if all meals are served in the canteen, although the number of meals may not materially alter. The question of staff must be decided upon after experiment, and can safely be left for the Manager to decide.

When engaging staff, it is a good move to impress on the applicant your desire to create a happy atmosphere, with a general pride in the work, and also pride in personal appearance.

Most people when applying for work in the canteen will ask, "What do I wear?" In most canteens, overalls are worn—either white or coloured—and in these difficult days of coupons and short supply, a staff can easily become a motley crowd, dressed in any kind of overall that can be procured. We are not planning so much for today as for tomorrow; and to attain the high level in Industrial Catering that is so essential, some further thought and determination is necessary to dress the staff smartly and well. White overalls always look clean and tidy, but if used by girls who serve tea in the factory, they quickly become soiled. The staff waitress who serves directors and executives with afternoon tea should wear something more pleasing than an overall. A good impression can be created if canteen staff serving in the canteen wear white overalls, those serving in the factory, coloured overalls, and those serving in the offices nicely made tailored frocks with dainty aprons. The coupon restrictions at the present time may make the whole scheme difficult, but it can, no doubt, be managed in time. It raises the whole tone of catering service, and the staff themselves realise that their good appearance is encouraged by the management.

Cooks must wear white coats or overalls, and the kitchen porters must wear suitable aprons. All those concerned with the cooking and service of food must wear head covering.

If the staff do not already possess this clothing it must be provided by the management. Staff should not be allowed to take their uniforms home;

they should be carefully folded or hung up at the end of the day's work, so that they are kept as clean as possible. That will help to save laundry bills, which become expensive if care is not taken (*see page 420, "Run Your Own Laundry"*).

All these things should be explained to applicants on their engagement. The firm's Rules are easier to enforce if explained beforehand.

With regard to overalls for canteen staff, the Catering Wages Act 1946 says that the minimum remuneration is payable to a worker who is employed "in the circumstances that he is provided by the employer, subject to the requisite coupons and supplies being available, with a reasonable supply, in good repair, of clean overalls and (except in the case of a supervisor, manager, manageress, steward, stewardess or porter) of clean headwear for the use of the worker while at work.

"In the case of any worker who is not provided by his employer with a reasonable supply, in good repair, of clean overalls and headwear, the remuneration to the worker shall be increased by 2s. per week."

It should also be explained to staff that their duties may be varied. The duties of the cooks, storekeeper and clerical assistants are naturally quite clear, but the general canteen assistant is engaged for any work that may be decided upon by the Manager. Staff must never be allowed to say: "I was engaged as a waitress and I am not going to help to clean the canteen—that's not my job." Everyone must clearly understand that all must pull together as one team to ensure the smooth running of the canteen.

The actual "starting time" for canteen staff will have to be fixed by the Canteen Manager according to the services demanded of him and the time of the various meal-breaks. It is quite likely that the kitchen staff will need to commence their daily duties at a much earlier time than those who serve tea in the factory, or the canteen office staff. In small canteens it will no doubt be possible for the assistants to do their job in the kitchen, then serve tea in the factory during the mid-morning break, afterwards returning to the kitchen in time to dish up and serve the midday meal. This will not be possible in larger factories, where canteen staffs must be more carefully divided.

The question then arises as to whether canteen employees should be paid by the week or by the hour. It is usual to pay the clerical staff by the week, as their hours of duty can usually conform to those worked by the factory clerical departments. Senior canteen staff, cooks, storekeeper, etc., can also be paid by the week. They should be considered as people holding responsible positions. Most firms have found it best to pay general canteen assistants by the hour, and a "Time Clock" should be fixed in the canteen. The minimum rate of pay for assistants requires very careful thought. If the rates of pay fixed by the Catering Wages Board are strictly adhered to, the staff will generally find that they could earn more money if they worked in the factory. This will create a good deal of dissatisfaction, and there will

always be someone asking to be transferred. To avoid this state of affairs, managements should see that they pay their canteen assistants a rate of pay comparable to the minimum factory rate, and add some kind of "merit payment" in order that good work can be suitably rewarded.

TYPES OF SERVICE

This question was commented upon in my opening pages, but perhaps a more detailed description of types of service is necessary.

Counter Service.—This is the quickest method, and also the simplest. The customer is able to collect his meal direct from the counter, and proceed to his seat. He pays for it as he gets it, either in cash or by ticket. No time is lost, and for those people who have only a short meal-break, this is a most satisfactory way of dealing with the service problem. In this way 500 meals can all be served within ten minutes. It does not give as much scope for variety in meals as Cafeteria or Waitress Service, but it does provide for a good control, as no one can get a meal without first handing over cash or tickets. The counter or servery should be divided into sections, with notices in large lettering telling the customers exactly where to go for the "Main Meal," "Sweet," "Soup," "Snacks," "Tea or Coffee," etc., etc. We have already advocated variety in meals, and, therefore, if possible, there should be more than one "Main Meal" service point. A large Menu Board should be situated near enough to the entrance of the dining-room to allow the customer to decide what he wants for his meal. He can then go at once to the service point for that dish.

Cafeteria Service.—A "Tray Rail" is built along the whole length of the counter. The customer first collects a tray, cutlery and crockery, and then pushes the tray along the rail, collecting the dishes required as he goes along, and at the end of the counter a cashier quickly adds up the detailed prices of each meal and collects the cash or tickets. The advantages of this method are that a greater variety of dishes can be displayed, and the customer has a good opportunity of choosing the food he likes. It is quite a good method if the meal-break is spread over a long period and people are coming for meals at any time during that period, but in the majority of cases everyone comes at once and it then proves very slow. Those in the queue who are hesitant and can't make up their minds what they want—and there are many such people—will hold up the others. A few seconds' delay by each person means that a very long time is taken before everyone can be served. Again, the cashier must be quite brilliant to assess accurately the cost of each meal when customers are passing the cash desk quickly, especially if there is a variety of meals. In most canteens, the ordinary cafeteria method is not satisfactory.

Waitress Service.—It is not likely that waitresses can be supplied for everyone. As it is the aim of managements to keep the cost of meals down

to a minimum, waitresses for all will be found too expensive, as one waitress cannot deal with more than about twenty people. If the numbers, however, are not too large, and the customer is willing to pay a little extra to cover the cost of the additional staff, this type of service is by far the nicest. It is sometimes adopted for office-staff dining-rooms, and almost always for executives. A good waitress will study the likes and dislikes of each individual customer. She will keep her tables clean and cruets always filled, cutlery and glass well polished. The customer will very quickly realise that it is well worth the extra cost, and those firms who have instituted a Waitress Service have never regretted the decision to do so. As mentioned in the section on "Preliminary Planning," it is well worth adopting this service, as well as a quick-service counter method, irrespective of works or staff.

METHODS OF PAYMENT

Payment for meals can either be made in Cash or by Ticket, or (in the case of executives) by Account.

Payment by Cash.—Where there is a quick-service counter method, payment in cash should not be encouraged. As there are several points of service, it would either mean that several cash registers would be required, or that cash would be placed in an open box. It also means that several people have the handling of cash. As the general canteen hand is not accustomed to mental arithmetic, it cannot be expected that change will always be given correctly, and a good many errors in cash are bound to occur. It also slows down the service considerably if cash is given for meals, because exact payment cannot be insisted upon.

In a dining-room served by waitresses, cash is usually taken either by the waitress or at a cash desk at the exit. The waitress can be responsible to produce cash for all the meals served, or she can issue a bill to the customer, who pays it at the cash desk on leaving the canteen. If there is a set meal-break, the majority of people will leave at the same time, and there will, therefore, be a queue at the cash desk to pay bills. This waste of time will not be welcomed by either customer or management. The best method to adopt is to allow the waitress to take cash for meals served.

Payment by Ticket.—By far the best ticket method is the use of "Automatic" machines. These can now be obtained on a rental basis, and should be installed where they are most accessible. In the largest dining-room a machine can easily be fixed in the canteen shop, and in the staff dining-room a smaller machine can be placed in the cashier's desk. If a waitress service is adopted, this is not necessary, although tickets should always be accepted for any kind of sales.

The machines are usually designed to issue tickets of various prices, i.e. 1d., 2d., 3d. and 6d., and each ticket can be torn in half to represent half the value. Thus, anyone buying one shilling's-worth of tickets can present the exact amount without requiring change. If a Counter Service is used,

no meal is ever issued without the exact value in tickets being handed over in exchange. Tickets of different values should be of different colours so that the total value can easily be checked.

The tickets, when received, are placed in a slotted box which is locked, or through a slot in the counter. Tickets are collected after each meal and checked by the canteen office staff, who should then be able to ascertain how many meals have been served over that particular counter.

The great advantage of this system is that the employees can buy a supply of tickets in advance, thereby saving time in a queue at lunch-time, and, also, the canteen staff have no cash to receive and no change to give.

Payment by Account.—The system of weekly or monthly accounts can only be allowed for those entitled to use the executive dining-room. As the number of diners in this room is relatively small, it presents very little extra work for the waitress, but it will prove very popular with heads of departments, who may be entertaining visitors, and will not want to worry with cash or change but would prefer to pay by cheque. It gives a little more work to the office staff, but it is worth the trouble.

NUTRITION

During the recent war, Industrial Caterers were strongly urged to acquire some knowledge of Nutrition. Various books have been published, containing masses of figures and scientific formulæ which explain the effect of various types of food on the human body. The Industrial Catering Association and the National Society of Caterers to Industry arranged for lecturers at various Universities to organise courses for Catering Managers, based on *A Manual of Nutrition* by Dr. Magnus Pyke. These were well attended, and much valuable information was imparted. Managements and Personnel Managers should encourage their Catering Managers and Cooks to interest themselves in the National Council for Hotel and Catering Education, which is striving to improve the status of the industry. (*Another subsection is devoted to the subject of Catering Education.*)

In order, however, that employees may be served with meals which will prove advantageous to the particular kind of work in which they are engaged, we give some of the fundamentals of nutrition.

Food provides the body with the material required to produce heat, work and other forms of energy. It enables the body to grow and to repair itself. The nutrients of which foods are composed are:

(1) *Carbohydrates*, to provide energy. There are three kinds of Carbohydrates:

- (i) Sugar.
- (ii) Starches.
- (iii) Cellulose and related materials.

The third type is not digested, and hence of little value nutritionally, except in so far as it contributes bulk or "roughage" to the diet.

(2) *Fats*, to provide energy and fat. All fatty materials, including the fat from meat, butter, fat and all the oils derived either from animal or vegetable sources. Fats are the prime energy providers.

(3) *Proteins*, to provide energy and material for growth and repair, and sometimes fat. Proteins are substances which are essential constituents of plant and animal cells. There is no known life without them. Protein is derived from two sources:

Animal Protein, i.e. meat, game, fish, milk, cheese, eggs.

Vegetable Protein, i.e. green vegetables, root vegetables, potatoes, nuts.

Carbohydrates, Fats and Proteins are the energy-giving nutrients. The energy value is measured in heat units called **calories**. A calorie is the amount of heat required to raise the temperature of 1,000 grammes of water one degree Centigrade.

(4) *Mineral Substances*, to provide material for growth and repair, and for the regulation of the body processes:

as constituents of bones;

as constituents of cells of the body;

as soluble salts which give to the fluids of the body their composition and their stability, which are both essential for life.

(5) *Vitamins and other accessory substances* regulate the body processes.

Vitamin "A" occurs in certain fats and in the fatty part of some foods. It is necessary for the growth of children. It plays a part in the way the eyes perceive light. It protects the skin and particularly moist areas such as the front of the eyes. A definite amount of Vitamin "A" is very necessary for health.

Vitamin "B" forms part of the machinery by which a steady and continuous release of energy is obtained from Carbohydrates.

Vitamin "C." Considerable attention must be given to the supply of Vitamin "C." If the diet is deficient in Vitamin "C," the following ill effects will arise:

(i) Growth will be checked.

(ii) Gums and mouths become susceptible to infection.

(iii) The healing of wounds is retarded.

(iv) Finally, symptoms of scurvy appear.

Vitamin "C" only occurs in fresh vegetables and fruit (with the possible exception of fresh liver). It can easily be destroyed by cooking, and even if the best methods are used and the greatest care taken, it is easily possible to lose half of the vitamin originally present. In green vegetables the amount of Vitamin "C" is highest in the spring and early summer. It is quickly lost if vegetables are allowed to wilt. Although the amount of Vitamin "C" in potatoes is not as high as in green vegetables, potatoes are still the principal source of Vitamin "C" because they are eaten in large quantities every day.

Vitamin "D" is concerned in providing the bones with calcium and phosphorus. It comes from two distinct sources: (1) Food, (2) Sunlight.

The foods which supply Vitamin "D" are mostly animal products such as cod-liver oil, fish, eggs, butter, cheese, milk, liver. If children can get plenty of sunlight on their bodies, the amount of Vitamin "D" needed from food will be reduced.

Generally speaking, most foods contain a proportion of several nutrients, and to enable one to compile a balanced diet, a table is given on pages 390-391, showing in some detail the make-up of various foods.

Calories are needed to provide energy for the normal processes of living—breathing, heart-beat, etc.—and for the everyday incidentals of existence. This requirement is closely similar for every adult. The total daily requirement of calories is determined largely by the nature of an individual's occupation, thus a person with a sedentary occupation such as a clerk will need 2,220 calories in each twenty-four hours, but a man carrying on a very active occupation entailing great muscular activity, such as a blacksmith or woodcutter, will need as much as 5,000 calories per day.

Correct Cooking, in nearly every case, improves the nutritional value of food; it also improves its flavour and attractiveness. Baking, roasting and grilling are the uses of dry heat applied direct to the food. Boiling and steaming are best applied by means of hot water, and frying is heat derived from hot fat. The effects of cooking on food can be briefly summarised as follows:

Carbohydrates: Raw starch is not easily digested. Cooking causes the starch granules to swell and break up, in which condition they are readily digested.

Fats: Cooking has no effect on fat.

Proteins: Foods are more easily digested after cooking. Care must be taken, however, not to expose food to excessive heat for too long or the nutritive value will be reduced.

Minerals: The mineral substances in food are not materially affected by cooking. An interesting effect of cooking in hard water is that enough calcium may thus be incorporated in the food to double the original amount it contained prior to cooking.

Vitamin "A": Cooking has no effect.

Vitamin "B": A small amount may be destroyed, as Vitamin "B" is soluble in water and therefore can be lost by

Vitamin "C": This is important, as cooking is necessary to a extent to make Vitamin "C" available to the body. A large proportion is easily and inevitably lost during cooking and the preparation of food. Factors causing this loss are:

- (1) Excessive cooking.
- (2) Keeping meals hot.
- (3) As it is easily soluble in water, Vitamin "C" is lost when the liquors are thrown away.
- (4) Lost by grating vegetables or starting to boil vegetables from cold water.

Vitamin "D": Cooking has no effect.

THE COMPOSITION OF FOOD

All values are per oz. of edible portion

	Waste	Calo-ries	Pro-tein	Fat	Car-bohydrate	Calcium	Iron	Vita-min A	Vita-min B ₁	Ribo-flavin	Nico-tinic acid	Vita-min C	Vita-min D
	Per cent.		g.	g.	g.	mg.	mg.	i.u.	mg.	mg.	mg.	mg.	i.u.
1. Cereals													
Barley, pearl	0	97	2.2	0.5	20.8	3	0.2	0	0.03	0.01	0.7	0	0
Biscuits—plain	0	107	3.4	0.9	21.3	23	0.6	0	0.40	0.03	0.3	0	0
sweet	0	136	2.0	6.8	16.8	14	0.3	0	0.02	0.01	0.2	0	0
Bread—white 70-72% extraction	0	73	2.3	0.2	15.6	4	0.2	0	0.01	0.01	0.2	0	0
National 85% extraction	0	71	2.4	0.3	14.6	4 ¹ (16)	0.5	0	0.05	0.03	0.3	0	0
wholemeal 92% extraction	0	70	3.1	0.6	11.2	7	0.7	0	0.09	0.05	0.6	0	0
Flour—white	0	100	3.1	0.3	21.2	5	0.4	0	0.02	0.01	0.3	0	0
National	0	97	3.3	0.4	20.0	6 ¹ (25)	0.7	0	0.07	0.04	0.4	0	0
wholemeal	0	95	3.9	0.9	17.4	10	1.0	0	0.13	0.06	0.8	0	0
Oatmeal	0	111	3.4	2.5	18.6	16	1.2	0	0.13	0.04	0.3	0	0
Rice	0	99	1.8	0.3	22.2	1	0.1	0	0.02	0.02	0.3	0	0
Wheatflakes, shredded wheat	0	97	3.9	0.7	18.7	10	1.4	0	0.01	0.02	0.3	0	0
2. Dairy Products													
Butter	0	211	0.1	23.4	0	4	0	1,140	0	0	0	0	17
Cheese	5 (rind)	117	7.1	9.8	0	230	0.2	370	0.01	0.14	0.1	0	4
Egg—fresh	12 (shell)	45	3.5	3.3	0.3	17	0.8	280	0.04	0.11	0	0	17
dried	0	163	13.0	11.9	0.9	62	3.1	850	0.11	0.37	0.1	0	68
Milk—whole	0	17	0.9	1.0	1.2	34	0	30	0.01	0.04	0	0.3	0.5
evaporated (condensed, unsweetened)	0	40	2.0	2.3	2.7	69	0.1	90	0.01	0.10	0.1	0	1
condensed, sweetened	0	89	2.3	2.6	14.1	82	0.1	105	0.03	0.10	0.1	1	1
dried, whole	0	138	7.3	7.6	10.1	254	0.2	300	0.08	0.33	0.2	0	3
dried, skim	0	97	10.2	0.2	13.6	348	0.3	9	0.11	0.45	0.3	0	0
3. Fats													
Cooking fat, lard, etc.	0	253	0	28.1	0	0	0	0	0	0	0	0	0
Margarine	0	218	0	24.1	0	1	0.1	570	0	0	0	0	56
4. Fish													
Kippers	40	62	5.4	4.5	0	34	0.6	51	0	0.09	1.2	0	250
White fish, cod, etc.	45	21	4.5	0.3	0	7	0.3	0	0.02	0.04	0.6	0	0
Fr ed fish, (white)	0	57	5.3	3.4	1.4	24	0.3	0	0.02	0.03	0.4	0	0
Fish paste	0	47	3.8	2.5	2.2	41	1.7	0	0.01	0.02	0.3	0	0
Herring	30	47	4.5	3.3	0	28	0.4	42	0	0.08	1.0	0	250
Salmon—canned	0	48	5.7	2.8	0	85	0.4	71	0.01	0.06	1.8	0	170
Sardine—canned	0	84	5.7	6.8	0	114	1.1	77	0.01	0.08	1.3	0	280
5. Meat													
Bacon	12	128	3.1	12.8	0	3	0.3	0	0.17	0.06	1.2	0	0
Beef—corned	0	69	7.1	4.5	0	3	3.1	0	0	0.04	0.5	0	0
fresh, average good quality	17	89	4.2	8.0	0	3	1.1	14	0.02	0.07	1.3	0	0
stewing	25	60	4.8	4.5	0	3	1.1	14	0.02	0.07	1.3	0	0
Kidney	0	36	4.5	2.0	0	3	3.8	280	0.07	0.37	3.8	0	0
Liver—Ox	0	40	4.8	1.7	1.4	3	3.9	4,260	0.11	0.85	3.8	0	0
Meat pie	0	103	3.1	6.5	8.0	4	0.6	0	0.03	0.03	0.5	0	0
Meat paste	0	45	3.4	2.3	2.6	7	1.0	0	0.01	0.03	0.6	0	0
Mutton	17	94	3.7	8.8	0	3	0.6	14	0.04	0.05	1.2	0	0
"Points" meat, spam, etc.	0	75	4.3	7.5	0	0	0.6	0	0.13	0.04	0.7	0	0
Pork	15	116	3.4	11.4	0	3	0.3	0	0.20	0.06	1.7	0	0
Sausage, pork	0	75	5.0	5.1	3.7	9	0.3	0	0.05	0.02	0.5	0	0
Shepherd's pie, etc.	0	78	2.8	5.0	5.5	8	0.2	0	0.02	0	0.2	0	0

¹ The figures in brackets show the calcium content after the addition of chalk to the flour at the rate of 0.016%.
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THE COMPOSITION OF FOOD

	Waste	Calo- ries	Pro- tein	Fat	Car- bohy- drate	Calcium	Iron	Vita- min A	Vita- min B ₁	Ribo- flavin	Nico- tinic acid	Vita- min C	Vita- min D
			g.	g.	g.	mg.	mg.	i.u.	mg.	mg.	mg.	mg.	i.u.
6. Vegetables													
Beans—baked, canned	0	25	1.7	0	4.5	16	0.7	47	0.02	0.01	0.2	0	0
haricot	0	71	6.1	0	11.6	51	1.9	0	0.13	0.08	0.6	0	0
soya, dried whole	0	114	8.5	4.3	9.4	67	2.6	25	0.24	0.06	1.2	0	0
Cabbage	30	7	0.4	0	1.4	18	0.3	85	0.02	0.02	0.1	20	0
Carrot	5-20	6	0.2	0	1.4	14	0.2	1,750	0.02	0.01	0.2	3	0
Cauliflower	30	6	0.7	0	0.8	14	0.2	0	0.02	0.02	0.2	20	0
Lentil	0	82	6.8	0	13.6	11	2.2	5	0.13	0.02	0.9	0	0
Lettuce	20	3	0.3	0	0.5	7	0.2	380	0.02	0.02	0.01	4	0
Onion	5	6	0.3	0	1.3	9	0.1	0	0.01	0.01	0	3	0
Peas—green	60	17	1.6	0	2.7	4	0.5	47	0.12	0.03	0.2	8	0
dried	0	85	7.0	0	14.2	17	1.3	19	0.13	0.08	0.6	0	0
Potato—fresh	7-25	21	0.6	0	4.6	2	0.2	0	0.03	0.02	0.3	2-81	0
chips	0	66	1.1	2.6	9.5	4	0.4	0	0.03	0.01	0.2	2	0
Spinach	25	6	0.8	0	0.7	20	0.9	1,230	0.03	0.06	0.1	18	0
Tomato	15	4	0.3	0	0.7	4	0.1	280	0.02	0.01	0.1	7	0
Turnip	35	5	0.2	0	1.0	17	0.1	0	0.01	0.01	0.3	7	0
Watercress	15	4	0.8	0	0.2	63	0.4	475	0.03	0.02	0.5	17	0
7. Fruit													
Apple—fresh	20	12	0.1	0	3.0	1	0.1	4	0.01	0	0.1	1	0
dried	0	52	0.6	0	12.5	8	0.6	8	0	0.01	0.4	0	0
Apricot—fresh	8	7	0.2	0	2.0	5	0.1	71	0.01	0.02	0.1	3	0
canned	0	14	0.1	0	3.5	4	0.1	47	0	0.02	0.1	1	0
dried	0	50	1.4	0	11.1	26	1.2	470	0	0.12	0.6	0	0
Banana	40	21	0.3	0	4.9	2	0.1	8	0.01	0.01	0.2	3	0
Blackcurrant	0	8	0.3	0	1.7	17	0.4	9	0.01	0.01	0.1	57	0
Date	14	68	0.6	0	16.3	19	0.4	9	0	0.01	0.1	0	0
Fig—dried	0	58	1.0	0	13.5	81	1.2	9	0	0.08	0.5	0	0
Lemon	30	5	0.2	0	0.8	20	0.1	0	0.01	0	0	2	0
Melon	45	6	0.2	0	1.3	4	0.1	8	0.01	0.01	0.2	3	0
Orange	25	10	0.2	0	2.2	12	0.1	28	0.02	0.01	0.1	16	0
Peach—canned	0	16	0.1	0	3.9	2	0.2	47	0	0	0	1	0
Pear	25	11	0.1	0	2.7	2	0.1	1	0.01	0.01	0.1	1	0
Pineapple—canned	0	20	0.1	0	4.9	3	0.2	6	0.01	0.02	0	3	0
Plum	6	7	0.2	0	1.6	4	0.1	38	0.01	0.01	0.02	1	0
Prune—dried	17	44	0.7	0	10.3	11	0.8	237	0	0.04	0.6	0	0
Raisin	8	67	0.3	0	16.5	17	0.5	5	0	0.01	0.1	0	0
8. Nuts													
Coconut	30	100	1.1	10.2	0.9	4	0.6	0	0.01	0.03	0.1	0	0
Peanut	30	166	8.0	13.9	2.2	17	0.7	0	0.25	0.08	2.6	0	0
9. Preserves, etc.													
Chocolate, plain	0	148	1.3	9.2	15.0	7	0.9	7	0.03	0.07	0.3	0	0
Jam	0	71	0.1	0	17.6	3	0.3	2	0	0	0	3	0
Sugar	0	108	0	0	27.0	0	0	0	0	0	0	0	0
Syrup	0	81	0.1	0	20.2	7	0.4	0	0	0	0	0	0
10. Beverages													
Beer—mild	0	10	0.1	0	1.5	3	0	0	0	0.01	0.4	0	0
Cocoa—as drunk with milk and sugar	0	13	0.8	0.2	2.1	22	0.1	1	0	0.03	0	0	0
powder	0	125	5.8	7.3	8.9	14	4.1	14	0.03	0.08	0.3	0	0
Tea—as drunk with milk and sugar	0	5	0.1	0.1	0.8	3	0	4		0.01	0	0	0
11. Cakes and Puddings													
Cakes, plain	0	82	2.3	2.0	13.6	14	0.3	0	0.04	0.01	0.1	0	0
Bun	0	85	2.3	2.2	13.9	10	0.6	0	0.04	0.03	0.3	0	0
Custard	0	33	0.9	1.1	5.0	55	0	20	0.01	0.02	0	0	0
Rice pudding	0	40	1.1	1.6	5.3	35	0	0.25	0.01	0.01	0	0	0
Steamed pudding	0	86	1.1	4.4	0.6	15	0.2	0	0.02	0.01	0	0	0
Yorkshire pudding	0	62	2.0	2.7	7.5	28	0.2	0	0.02	0.01	0.1	0	0

¹ The Vitamin C content falls steadily during the months of storage.

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PLANNING THE MENU

This is really the job of the Catering Manager, and he must be responsible to see that the food offered to employees is well cooked, varied and appetising. However hungry a person is, all appetite disappears if the food is not cooked and served in an appetising way. Menus should not be the same every week; it is so very monotonous to find a certain dish every Monday or Tuesday. Monotony in menus is not always a lack of variety; if the average person could choose what he wanted for breakfast, he would choose egg and bacon every day of his life. Thousands of business men go in normal times to their City restaurant, look at a large menu, and choose steak and chips, or grilled chop. The menu becomes monotonous when it is enforced—when there is no choice. Even in these difficult times, every effort should be made to give some kind of choice. That is one of the fundamentals in good menu-planning.

Soup.—Soup should always be available. Cooks must study the art of soup-making and not rely on tinned or packet soups, which should only be used in an emergency. Good use must be made of bones and stock, pulse vegetables and milk. It has been found that many people who work on the night shift do not fancy a full meal in the middle of the night. A good lentil soup or pea soup is very nutritious, and potatoes and bread can be added with good effect.

Fish.—Fish is usually served once a week, but it is a good idea to include it as an alternative on other days. Fried fish is always very popular, and is also most nourishing because it is cooked in fat. It can, however, be provided at a greatly reduced cost if it is steamed, baked or made into a fish pie. Herrings, although usually very cheap, are full of food value, and every effort should be made to popularise them.

Meat.—Roast joints are most popular, but the Catering Manager will have difficulty in providing them every day. Meat pie can be included, also stews, but a good stew is improved with the addition of dumplings and plenty of vegetables. Stews, if not served too frequently, can be greatly appreciated.

Vegetables.—Chipped potatoes are probably the greatest favourite of all, and baked potatoes should be included as often as possible. Potatoes in their "jackets" are also excellent food value, and should be often served. Care should be taken to see that potatoes served in this way are all of a good size or else it will be difficult to serve each person with a fair share.

Green vegetables and root vegetables are not so popular, so it is necessary to take great care in cooking them. They deteriorate with long storage, so do not buy too many at a time. They should be as fresh as possible and never overcooked. Braised onions make an excellent second vegetable. Tinned vegetables lose none of their food value in the tinning. They are a very useful asset in large-scale catering, although more expensive. They should be reheated—*never* recooked.

Salads.—Canteen cooks, especially in large canteens, are somewhat conservative in their ideas on salads. In small canteens it is easier to pay more attention to individual meals, but this is almost impossible when one is responsible for providing meals for many hundreds at the same time. A green salad often consists merely of lettuce, beetroot and maybe a slice or two of tomato. Lettuce is the usual base of a green salad, but the cook with imagination will use carrots, peas, watercress, leeks, spring onions, potatoes, etc. The addition of a slice or two of apple is very tasty. Shredded raw cabbage can be used on many occasions and is a splendid substitute for lettuce.

Summer Meals.—Canteens should rejoice in the "salad season," because it gives them an opportunity of serving cold meat and salad. The canteen diner will welcome the change from a hot meal and two vegetables. Cold meats are very economical to serve, and the ration of tinned meat can be used with advantage if a good salad is served with it. Tinned salmon, if available, has a high nutritive value, and is also most popular.

Sweets.—A steamed roll is perhaps the favourite pudding in most canteens. It can be made with sultanas, currants, raisins, figs, dates, prunes, etc., and served with syrup, jam or custard. It is a warming and nourishing sweet. Milk puddings should always be available, and although there is no rice to be had nowadays, one can buy semolina, macaroni and barley kernels; and milk puddings, if well made, provide good health value. Fruit, either stewed with custard or made into a pie or pudding, is very popular, and jam tart is another good alternative. If the small individual puddings can be served, so much the better. They look nicer, and everyone is sure of an even portion.

Beverages.—The sale of tea during the midday break will always exceed any other kind of beverage, but there is no reason why other hot beverages cannot be served on request. After a few days, one can judge approximately how many people would like coffee. Oxo, Horlicks, cocoa, etc., can be available, and made in a moment or two. Horlicks Ltd. will be only too pleased to supply the proper mixers for their beverage. Don't forget the cold drinks. Fruit-squash drinks can be obtained, and all canteens should be equipped with drinking-water taps, placed in convenient positions.

Snacks.—There is endless scope here for the caterer with imagination. It might be as well to leave this question until the canteen is smoothly running, but the snack meal is certainly very popular in the summer months, and deserves a good deal of thought. The employee who wants to do some shopping during the lunch-time would welcome a "packet lunch" containing, say, sandwiches, sausage rolls, cheese and salad, or fresh fruit. Packet lunches can be supplied with a good margin of profit, but they do take some time to prepare. It is a matter for some consideration and experiment, but it should certainly not be overlooked.

Special Meals for Directors and Senior Staff.—This is a very delicate problem. The quality of meals supplied to the workers in general must

never suffer because special attention is given to special meals for special persons. For this reason, we suggested on page 368 that a restaurant might be available to everyone, where a greater variety of meals could be purchased, at an increased charge. Nevertheless, it is a fact that the canteen should provide a meal of high standard to directors and executive staff. Apart from the fact that an extra charge is made, these are the people who receive high executives of other firms, and they should be entertained on the premises, and not taken out to the local hotel. From the staff point of view, it helps the good cook to maintain interest in his calling. It is usually impossible to provide for large numbers the little luxuries and dainty dishes that can be served to a few people at a time. The cooking of this type of dish is a very welcome relief to the cook, whose main duty it is to turn out "main meals for the masses." For a few people who are willing to pay the price, the caterer can provide poultry, game, salmon, asparagus, choice fruits, etc. A good meal, even if expensive, will be welcomed by directors, who would rather lunch on their own premises than go outside.

One general hint—do see that equal portions of everything are served; the right-sized server for potatoes, vegetables, sweets, etc., and an equal amount of meat on each plate. Let there be no question that one person ever gets more or less than his neighbour, who pays the same price.

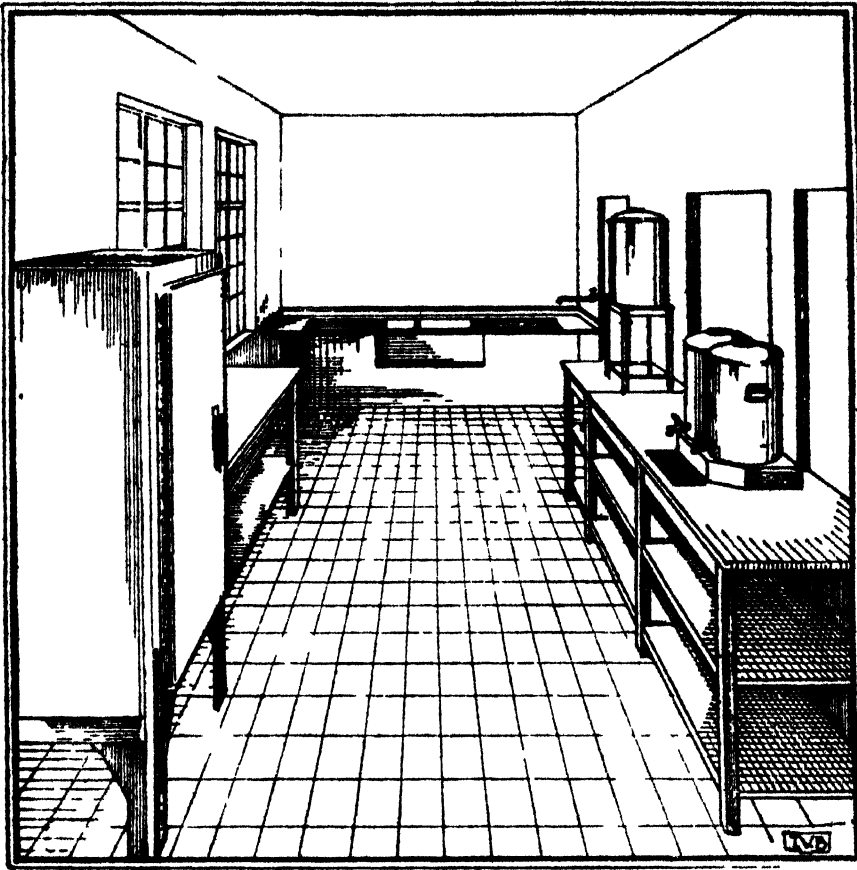
FACTORY TEA SERVICE

Up to now, we have only discussed the preparation, cooking and service of meals in the canteen, but to the majority of factory workers, the most important thing produced in the canteen is the morning and afternoon tea.

It is fairly safe to say that in the past, countless man-hours have been lost to industry because of a badly organised Tea Service. The fact must be recognised that factory workers want tea in the morning and afternoon, and if it is not supplied in an efficient manner there will be discontent.

The type of service depends on the construction of the factory and the number of people to be supplied. One thing is certain—the mid-shift tea service cannot take place in the canteen unless the factory is very small and the canteen is inside it. Too much time would be taken up in this way. To avoid loss of production time and to create the greatest satisfaction, the tea must be taken to the worker. The question to be decided is whether there is to be a definite break for tea—say, ten to twelve minutes—or whether tea is supplied to the worker at his bench between certain given hours—say 10 a.m. to 10.30 a.m. and 3 p.m. to 3.30 p.m. Do not make this decision without careful thought and without talking the matter over with the Canteen Manager.

In any case, it is advisable to build Tea Stations in the factory. The old method of pushing trolleys from the canteen to the factory is not very practical. Roads are bound to get a bit bumpy in time, and trolleys are not only



Designed and Prepared by The Empire Tea Bureau.

FIG. 24 - Specimen Tea Station.

difficult to push over uneven roads, but tea will splash out of the urns. Also, it is not very fair to expect the canteen workers to go out in all kinds of weather, pushing heavy trolleys. It is all very easy when things are new and running well and the weather is fine, but when the trolley wheels are worn and there is a hole in the road and it is raining or snowing, the lot of the canteen tea girl is not a very happy one.

Start off, then, with points of service inside the factory, and ample space should be allocated for this purpose. The canteen staff must have room to work. They will have their equipment to store, so good cupboards with good locks must be provided. Before discussing the actual layout of the tea station, let us consider each type of service.

Scheme No. 1.—Definite Tea Break, 10 to 12 Minutes.—To enable each worker to consume the drink comfortably in this time, the actual service must not take more than five or six minutes. Do not expect the canteen assistants to serve everyone in this time—it just cannot be

done; the service must be split up into sections. Again, it depends on the construction of the shop. The main thing to remember is that the service must go so smoothly as to be almost unnoticed, and it must be done with the greatest speed. If the shop contains, say, 200 workers, it might be advisable to have four points of service, with two assistants at each point. These assistants must be borrowed for the time being from the factory staff; it would be most wasteful to engage eight extra girls on the canteen staff in order to carry out a tea service for 200 workers. In one particular factory in the Midlands, a ten-minute break is allowed at 9.30 a.m. and 3.30 p.m. All tea service for about 3,000 workers is completed in four minutes. The Shop Superintendent divides his shop into sections and places a "tea orderly" in charge of each sixteen workers. It is assumed that they will all want half a pint of tea each, which means that one gallon will be required for each section. The canteen assistant makes the tea in urns in the usual way and this is completed twenty minutes before the time for break. After allowing fifteen minutes for infusion, the tea is run off into gallon cans, and at 9.28 a.m. the tea orderlies collect their cans from the tea station. Each can is labelled, and the orderlies know which to collect. In actual practice, it has been found that some sections require more than one gallon, and some sections may require a little less. The canteen assistant is notified of these variations, and she is able to measure out the correct quantity accordingly. The orderlies are able to serve their particular sections in from three to four minutes. The empty can, with the cash, is placed at a known point, and the canteen assistant collects the money. For some years, this method has worked with great satisfaction.

Scheme No. 2—Trolley Service.—Generally speaking, factories find it better to adopt the method of a Trolley Tea Service over a period of thirty minutes. This allows production to go on undisturbed, and the worker carries on with the mug of tea beside him on the machine. It is essential to have the co-operation of the workers at all times, but in this respect more than ever. Workers must not be allowed to leave their machines, continually looking up and down the shop for the tea trolley; they must feel confident that the trolley will appear in due time at the end of their row. Then only probably seven or eight people go to the trolley at one time, or perhaps one person will collect tea for the row. In this way, a canteen trolley with two 5-gallon urns and two workers will take charge of a shop with 150 to 160 workers with ease and efficiency.

In either scheme, the question of correct measure arises. In normal times, it is far better for the canteen to supply mugs. There can be no grumbles when a full mug of tea is supplied to each worker, and although it costs a little more money and means washing up, etc., it is well worth it in every way. In these difficult times, it may not be possible to obtain a supply of mugs, and even if it is, it may not be desirable as, owing to general shortages, things like mugs have a habit of "disappearing." It is common

nowadays for factory workers to bring their own tea can, cup or beaker. They are usually of different sizes, and it is difficult for the canteen worker to give an exact quantity to all, unless she is supplied with a measure. It takes a little more time to measure out each half-pint of tea, but workers who pay for a half-pint are entitled to it. The canteen assistant, after a little practice, will be able to estimate the proper quantity, but to be on the safe side, don't forget the measure. It would be a great help if tea urns could be fitted with an "optic" measure, as used for the sale of spirits, so that the exact quantity is served with ease and certainty. Up to now, no manufacturer seems to have made such a measure, which would be extremely useful.

OFFICE TEA SERVICE

This is no less important than the tea service in the factory. It depends on the size and shape of the offices how many tea service stations will be required. If the offices are all on one floor, then the urn method can be used with satisfaction. If there are gradients or stairs, then it might be better to use large teapots. The same care must be taken throughout the whole factory and office tea service to ensure a first-class cup of tea to every body. Heads of departments are usually served with trays of tea.

Tea-making Equipment.—Boilers.—A good supply of boiling water is necessary. Water boilers can be obtained from many first-class firms, and can be heated by steam, gas or electricity. A good many factories have steam pressure available, and it is an economical proposition to heat the water by this method. If steam pressure is used, it is a good plan to have an emergency gas or electric boiler available, should the pressure be cut off for any reason. An electric fitting (15 amps.) is a simple matter to fix in each tea station, and a spare boiler of the wash-boiler type is a very good stand-by. Be sure that the hot-water supply is plentiful. After an estimate has been made of the amount required, add at least $33\frac{1}{3}$ per cent.; nothing is worse than to run out of hot water. It is false economy to install boilers which are only just large enough. They must be mounted at a height which will allow the canteen trolley, with the urn fixed on top, to be wheeled under the tap of the boiler. Do not allow your canteen assistants to lift heavy urns of tea from the floor to the top of a trolley if it can possibly be avoided. Where the demand is for two 5-gallon urns for one trolley, two draw-off taps can be fitted to the hot-water boiler, so that both urns can be filled at once. Make arrangements with the factory Maintenance Department to overhaul the hot-water supply periodically, and don't wait until a breakdown occurs. Whichever way the boiler is heated—whether by steam, gas or electricity—see that the switch or tap for turning on the supply is in such a position that it can be easily reached by persons of average height. Steam valves are often placed so high that one has to stand on a chair to reach them. This is quite unnecessary.

A good-sized sink for washing up, with an equally sensible draining-board, should be fixed. The tea station cannot be kept clean if these essentials are omitted.

Insulated Tea Urns.—Tea urns should be lined with stainless steel, and fitted with perforated infusers. The taps should have a good-sized bore and be of the “easy-to-clean” variety. Small taps mean slow-running tea, and considerable loss of time in service. The most convenient sizes are the 5-gallon round urn or the 8-gallon rectangular-shaped urn. If a full urn has to be lifted, always use the handles at the side and never the tap or lid. Keep an eye on these handles to see that they are in good condition and not liable to break off at any time.

Tea Trolleys.—The best type of trolleys are those constructed of tubular steel. They are made with a top platform large enough to take two 5-gallon urns, or one 8-gallon urn, and are fitted with drip-trays which can easily be removed for cleaning. The trolleys are also fitted with metal trays to take mugs or food, which can be withdrawn from either side. They are mounted on rubber-tyred ball-bearing wheels, those in front being fixed and those at the other end swivelling. This makes steering easy, and is very important, as the trolleys, when loaded, may have to be manoeuvred in and out of bits of machinery, or pushed over uneven ground. Wheels must be adequate in size—diameter should never be less than 5 in. to 6 in. and whenever possible 8 in. The trolleys should be fitted with a cash drawer or ticket box, both of which should be lockable.

Teapots and Cups.—Although it may be decided to serve from urns, it is still wise to equip each tea station with a number of 1-gallon teapots. A large number will be required if it is decided to serve tea to small groups, as in Scheme 1 (page 395). It is also advisable to supply each tea station with a few small pots, together with cups, milk jugs, etc. If a visitor is to be entertained by the Shop Superintendent, a tray of tea may be ordered to be served in his office.

Measures.—Each tea station should be supplied with measures for tea and sugar, so that the correct amount can be measured for either a 5- or 8-gallon urn. Also separate measures for milk will be needed; one quart, with a marking for each half-pint, is the most useful size.

Cleaning Materials.—It is important to see that each tea station is equipped with a pail or bin for tea-leaves, brushes for cleaning spouts and taps, scrubbing brushes, mops, mop pails, glass cloths and swabs.

MAKING THE TEA

Good tea is really easy to make, and yet, quite frequently, the tea served—particularly in bulk—is of a poor standard. The right ingredients, as well as the correct equipment, are essential, but it is equally essential that the tea-maker must abide by the simple rules, which have been stressed time and

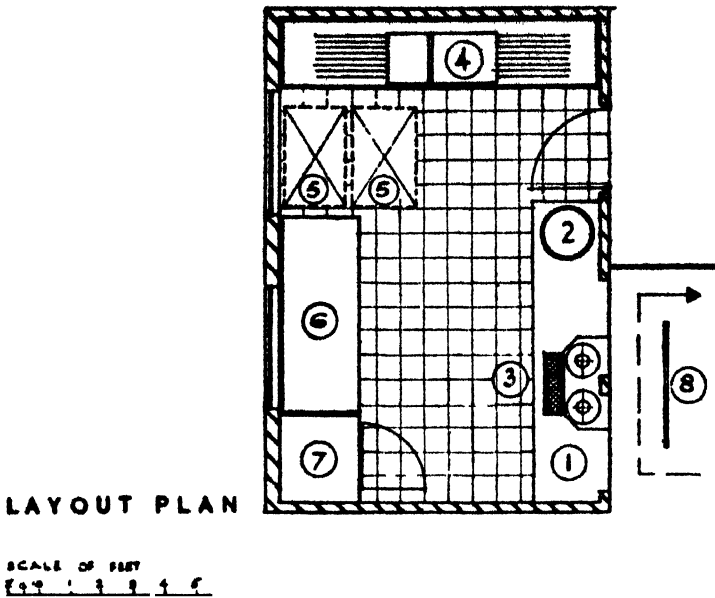


FIG 35 —Plan for Tea Station illustrated on p 395

time again. The following rules should be posted up in each tea station as a constant reminder to the staff:

1. Thoroughly warm the pot or urn. Fill with hot water, then run it out.
2. Put the correct measure of tea in the infuser, and run in freshly boiling water until the urn is full, allowing enough space for the milk.
3. Let it infuse for fifteen minutes, after which move the infuser about so that all the tea-leaves have been in contact with the water.
4. Remove infuser and put on lid, firmly clamping it down.

The milk should be added just before the actual serving. If it is possible to put the milk in the cups first, so much the better. If the milk is added when the tea is made and then left to stand for any period, the tea will have that objectionable "urn" flavour, and there is never any need for this. Tea will taste really good and remain very hot for four or five hours in an urn, if properly made.

The sugar should be added in syrup form. The ration is so small, and most people like sweet tea, that every particle of sweetness should be extracted. It is wrong to put the sugar with the dry tea in the infuser. The sweetness goes into the tea-leaves instead of the tea. Place the measure of sugar in a jug, add some tea from the urn and mix to a syrup. Then pour into the urn and stir well.

Quantities Required.—Do not buy cheap tea. A good-quality tea is much more economical. If the water is very hard, a little more dry tea will

		5 galls.	8 galls.
Tea	6 oz.	9½ oz.
Sugar	12 oz.	16 oz.
Milk	5-6 pints	8-9 pints

The requisitioning of dry tea, sugar, milk, etc., should be done by the supervisor in charge of the factory tea service, on a similar form to that used by the cook. The goods used in this service should be stored separately, and a weekly stock taken, so that the supervisor knows exactly how much of each commodity is used during any week.

These goods have now to be reissued to the staff at each tea station. If the station is equipped with well-locked cupboards, then tea and sugar can be issued each week, and the unused goods returned to the canteen after the tea-break on Friday afternoon. Milk, of course, must be taken to the tea station daily. The supervisor should keep a record of these issues in a book ruled as follows:

Week commencing.....

Department.....

Name of Canteen Assistant.....

[illegible]

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Department.....

Assistant.....

Week commencing.....

MORNING

AFTERNOON

[illegible]

Goods used during week.

Tea..... Sugar..... Milk.....

At the end of the week, the page is torn out by the supervisor, who completes the details at the bottom from her own record of goods issued. The details of each day's takings are entered on an analysed form, as follows:

Date.....

FACTORY TEA SERVICE

[illegible]

INDUSTRIAL CATERING

OFFICE TEA SERVICE

	SECTION 1				SECTION 2				SECTION 3				TOTALS
	Gals.	£	s.	d.	Gals.	£	s.	d.	Gals.	£	s.	d.	
A.M.													
Tea .													
Trays .													
P.M.													
Tea .													
Trays .													
Total .													
Horlicks													
Cocoa .													
Oxo .													
Total .													

The takings can be entered daily in the Takings Book (page 405), and are also ready to be entered in the Weekly Trading Account (page 410).

The amount of goods consumed in factory tea service is calculated in the same manner as that employed by the cook in regard to her kitchen, i.e. total of Daily Requisitions, plus Opening Stock, minus Closing Stock.

Useful free guidance can be obtained from the Empire Tea Bureau on the organisation of Factory and Office Tea Services. Booklets and charts to remind staff of the rules of good tea-making can be procured from the same source.

“WEEK-END MEALS” OR CATERING FOR THE SPORTS CLUB

It has already been stated that there must be close co-operation between the canteen and the sports club. In most firms, a sports ground is provided for the use of employees, and also accommodation is provided for indoor sports—billiards, darts, dominoes, shooting range, etc., and sometimes a licensed bar. The annual sports day is usually the firm's Gala Day and refreshments are always required—one cannot imagine a sports day without a Tea Tent, and those who play cricket, football, etc., like to entertain their visitors after the game.

The canteen staff may feel rather resentful at having to work when other

factory employees are playing, but this is the fate of those who are employed in the Catering Industry. In commercial catering, the hardest work falls on Bank Holiday or at the time when others are enjoying themselves. The Catering Manager will understand and appreciate the situation. He will take it in his stride, and he should explain to his staff when engaging them, that they must be prepared to take their turn in working on Saturday or Sunday, or in the evening if the Darts Club requires refreshments, or there is some sectional annual dinner.

This type of catering is outside the ordinary hours of business and the staff must be paid at overtime rates. The Home Team will probably want to make an effort to entertain their opponents especially well and will not mind paying an extra charge for this extra service.

A larger percentage of gross profit must be obtained from these Sports Club meals, and should, therefore, be extended separately in the Weekly Trading Account.

KEEPING THE ACCOUNTS

"Factory managements in general are satisfied if their canteen pays its way; a net profit is not usually expected." Statements of this kind have become so casual in past years that it is very difficult to define the phrase, "The canteen should pay its way."

It is quite easy to collect and analyse the receipts, but the expenditure requires a good deal more clarification.

Having allowed a sum of money for building and equipping the canteen, the management should decide if this capital outlay is to be repaid by the canteen, and also what "overheads" are to be charged to the Canteen Account. It is naturally expected that the takings must cover the cost of food and wages. In some firms, the Manager's salary is a charge against the Welfare Department. Who bears the cost of recurring "overheads"? The older a canteen building becomes, the more it will require repairs to pipes, joints, water systems, etc. Does the firm supply this service, and is it charged to the canteen? After these points have been decided, a Catering Manager will know just what is expected of him. By experiment, he will know what gross percentage he must make to clear his charges.

In the catering business, all percentages are calculated on takings. Usually, the canteen is expected to cover the cost of food, wages, crockery and minor replacements, laundry and probably gas (or other fuel) for cooking. It is essential to install a system which will enable the Directors and Canteen Manager alike to know exactly what comes in and what goes out; if the results vary week by week, the system should explain the reason. In the past, many managements have never worried about good canteen control. It is only when workers complain that things are looked into, and if they are contented, it is assumed that all is well. This is not fair on the Catering

Manager, who should know how his department is operating at all times. The final accounts for presentation to the firm's Auditors will usually be prepared in the firm's Accountancy Department, but we will explain a system of day-to-day reckoning, which will assist in the adoption of a definite scheme.

Receipts.—When tickets are used, there must be a reconciliation between tickets actually sold and tickets handed in for meals. The total value of tickets actually taken in payment for food is the true figure of takings for the day, but tickets are usually bought on one day and used on another. The following simple form can be used to account for tickets sold and tickets taken for meals. The Credits or Debits are adjusted daily from the office safe, and the actual amount of daily takings can be paid in by cash.

No. ¹			Amount		
1d.			£	s	d
	67,984 67,219	665	2	15	5
3d.	06,311 05,891	420	5	5	—
4d.	10,039 9,724	315	5	5	—
6d.	80,328 80,026	302	7	11	—
Total .			20	16	5
Amount exchanged for food .			23	11	2
Debit Balance . . .			2	14	9

Takings should be analysed, and special care should be taken to see that items which bear a fixed percentage of profit should be entered in a separate column. If tea is served in the factory at a mid-shift break, it is wise to keep this as a separate account. Tea produces a steady percentage of profit, but if it is not accounted for separately and is added to the bulk takings, it is very easy for it to conceal errors in other directions. Similarly, if cigarettes are sold, which only produce a small percentage of profit, these also should be separately accounted for or they will make the final results show a much lower percentage than the true figure obtained from the sale of meals.

¹ If an "Automatucker" machine is used, this number will coincide with the numbering device on the machine.

INDUSTRIAL CATERING

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A simple method is to keep a "Takings Book," in which the final daily takings are entered under their separate headings:

TAKINGS FOR THE MONTH OF.....194..

Date	Canteen Meals						Factory Teas			Other Hot Beverages			Shop			Total		
	Day Shift			Night Shift														
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.

The takings for the Day Shift is the total of the various items sold, and can be entered on a separate form before transfer to the Takings Book:

DAY SHIFT							Meals			Hot Beverages			Total		
							£	s.	d.	£	s.	d.	£	s.	d.
Soups															
Main meals															
Sweets															
Rolls, cheese, etc.															
Salads															
Hot beverages															
Tea Meals															
Sundries															
Total						£									

A similar sheet can be kept for the Night Shift, which will include suppers and breakfasts, and details of each part of each meal can be looked up at a second's notice. The total only is transferred to the Takings Book.

The takings from the factory service are also entered in the Takings Book, likewise the takings from the shop (cigarettes, chocolates, etc.). It is a wise plan to have a Cash Register in the shop, as one cannot insist on tickets for cigarettes, and cash must be accepted.

The canteen should have a separate Banking Account, and cash should be paid in at convenient intervals. Payments should never be made from takings. The Paying-in Bank Slip should agree with the Takings Book.

Payment of accounts is usually done from the firm's Accounts Department. A good system must therefore be operated, so that accounts are properly vouched for before being paid.

ORDER

No.....

Date

To.....

PLEASE SUPPLY :

<i>Quantity</i>	<i>Description</i>	<i>Price</i>	<i>Points</i>

Catering Manager.

When goods arrive, they should be immediately checked, and entered on a "Goods Inwards" pad (*opposite*), also in triplicate; one copy for the accounts office, one for the canteen office and one for the storekeeper. This Note should never be copied from the Invoice or Delivery Note and it is a good plan for the Invoice to go direct to the Canteen Manager. The storekeeper is only concerned with actual goods that are received or issued.

INDUSTRIAL CATERING

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.....Company Ltd.

No.

CANTEEN STORES

GOODS INWARDS

Date

The following goods have been received into Stores and entered on Stock Cards against Purchase.

Order No.

Supplier

	<i>Quantity</i>	<i>Description</i>

Signed.....
Storekeeper.

Each article in the stores should be recorded on a separate Stock Card. For instance, one card for "Salmon" is not sufficient. Six cards would be required, i.e. Salmon No. 1 1's, Salmon No. 1 ½'s, and two cards each for Salmon No. 2 and No. 3. As soon as goods are received, they should be entered on the Stock Card. A daily record is thus available for every item received into stock.

STOCK CARD

Commodity.

<i>Date</i>	<i>Goods Inwards No.</i>	<i>Price</i>	<i>Received</i>	<i>Issued</i>	<i>Balance in Stock</i>

.....Canton.
DAILY REQUISITION FOR FOOD, Etc.

Date.....

<i>Commodity</i>	<i>Description</i>	<i>Quantity</i>	<i>Price per</i>	<i>£</i>	<i>s.</i>	<i>d.</i>
Bread						
Bacon						
Biscuits						
Butter						
Cake						
Cheese						
Cooking Fats . .						
Cooking Sundries .						
Fish						
Fruit—fresh . .						
Fruit—tinned . .						
Jam						
Margarine						
Milk—fresh . . .						
Milk—tinned . .						
Meat						
Sugar						
Vegetables—fresh .						
Vegetables—tinned .						
Sundries						
Tea						
Coffee						
Cocoa						
Oxo						
Horlicks						
<i>Shop:</i>						
Chocolate						
Confectionery . .						
Cigarettes and Tobacco						
Shop Sundries . .						
Kitchen Sundries .						
Cleaning Materials .						
Linen						

£

Nothing must be released, under any consideration, from stores without an official requisition. A Stores Requisition Book should be kept in the kitchen and should be in triplicate; one copy for stores, one for the canteen office and the remaining one for the cook. The order forms must be comprehensive, and should be large enough to record everything needed day by day. It is not likely that the cash columns can be completed by the cook or storekeeper, but they must be filled in by the office staff.

It is a wise plan to requisition in the afternoon for the following day. Good time is thus allowed for preparatory work. As soon as goods are issued from the stores, the storekeeper should enter the issues on his Stock Cards, thus maintaining a record of all goods received and issued. The cook has a complete record of everything received into the kitchen. It sometimes becomes a habit for tradesmen delivering goods—mostly perishable goods like meat, fish, vegetables, milk, etc.—to take them direct to the kitchen and by-pass the storekeeper. This must be guarded against; everything must, first of all, be received into stores, although it may be issued in bulk to the kitchen immediately afterwards.

A Weekly Kitchen Trading Account should be prepared, and there is no reason why this information cannot be on the Manager's desk by Tuesday or Wednesday of the following week. The procedure is as follows:

The takings are entered from the Takings Book—that is a simple matter—with one addition, viz. "Staff Meals." The staff are entitled to meals while working, and the canteen should be credited with their full selling price, just as if actual cash was received for them. The cost of these meals is added to the wages charge on the other side of the Canteen Account. The figure required on the expenditure side of the Weekly Trading Account is the cost of food consumed.

It is only necessary to take stock of the goods actually in the kitchen. Most firms are now adopting the five-day week and finish work on Friday evening. The cook can usually take stock in the kitchen on Friday evening, and as it is the end of the week, there should be no surplus food hanging about. Make Saturday the first day of the week. To arrive at the cost of food consumed, the total of the week's requisitions should be added to the stock at the beginning of the week, and the value of the stock at the end of the week should be deducted. The form overleaf shows "Factory Tea Service" and "Week-End Sales," both of which are dealt with separately on pages 394 and 402.

This Trading Account shows the percentage of Gross Profit made. It is a useful thing to take the cost of "Cooking Sundries" out separately—items like frying fat, condiments, herbs, etc. The amount of fat used in the fish fryer does not alter strictly in proportion to meals served. If 120 lb. of fish is fried, the fat used will not be double the quantity required for 60 lb. Therefore, keep the sundries separately. It is not much trouble, and gives a truer picture of the week's work.

INDUSTRIAL CATERING

TRADING ACCOUNT

FOR

Week ending.....

KITCHEN

Costs				Sales			
58% Food consumed	174	0	0	Cash takings	285	0	0
2% Cooking sundries	6	0	0	Staff meals	15	0	0
			180				
			120				
40% profit							
			£ 300		£ 300		

FACTORY AND OFFICE TEA SERVICE

35% Tea			70	0	0	Tea	196	0	0
76% Horlicks			38	0	0	Tea, Staff	4	0	0
75% Cocoa			7	10	0	Horlicks	50	0	0
						Cocoa	10	0	0
			115	10	0				
<u>Profit</u>									
65% Tea	130	0	0						
24% Horlicks	12	0	0						
25% Cocoa	2	10	0	144	10	0			
			£ 260	0	0		£ 260	0	0

WEEK-END AND SPECIAL OCCASIONS

50% Goods supplied	12	10	0	Takings	25	0	0
50% Profit	12	10	0				
	£ 25	0	0		£ 25	0	0

"Gross Profit."—It is most important that both Catering Manager and Accounts Department shall be aware week by week of the Gross Profit percentage. This is the *one* factor, and probably the only factor over which the caterer has direct control. If the percentage varies to any considerable extent, the Manager should be aware of the reason. He may not be able to alter it, but he must be in the position to answer the management if his accounts are queried. A complete Profit and Loss Account will probably be prepared either monthly or quarterly, but great assistance will be gained if this Trading Account is completed each week.

Many firms do not insist on any other details, but the Catering Manager would be well advised to record further costs to enable him to know why his percentages rise or fall. The following scheme is not very complicated, and its results are always very interesting and often prove to be very useful. On page 405 the Takings are analysed and entered into separate columns, i.e. soups, main meals, sweets, rolls, cheese, etc., salads, hot beverages, tea meals, etc., etc. However it may be decided to separate the sales, the costing of in-

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DAILY RECORD OF KITCHEN COSTS AND TAKINGS

Costs

Takings

[illegible]

MAIN MEALS

[illegible]

SWEETS

[illegible]

ROLLS AND CHEESE

[illegible]

INDUSTRIAL CATERING

HOT BEVERAGES

<i>Materials used</i>	<i>Qty.</i>	<i>Price</i>	<i>Value</i>			<i>Section</i>	<i>No.</i>	<i>Price</i>	<i>Value</i>		
			<i>£</i>	<i>s.</i>	<i>d.</i>				<i>£</i>	<i>s.</i>	<i>d.</i>

TEA MEALS

<i>Materials used</i>	<i>Qty.</i>	<i>Price</i>	<i>Value</i>			<i>Section</i>	<i>No.</i>	<i>Price</i>	<i>Value</i>		
			<i>£</i>	<i>s.</i>	<i>d.</i>				<i>£</i>	<i>s.</i>	<i>d.</i>

BREAKFASTS

<i>Materials used</i>	<i>Qty.</i>	<i>Price</i>	<i>Value</i>			<i>Section</i>	<i>No.</i>	<i>Price</i>	<i>Value</i>		
			<i>£</i>	<i>s.</i>	<i>d.</i>				<i>£</i>	<i>s.</i>	<i>d.</i>

A separate heading for each course is allotted, and the takings and costs are entered up daily. The cook will provide the weights of ingredients used, and the office staff will be able to enter the cost of each article and work out the final cost of the food consumed for the day. The office staff will also be able to complete the Takings column.

Most Directors' and senior executive's rooms are supplied with a complete meal at an inclusive cost, say 2s. each. It will be necessary to divide this figure in order to complete the Takings column as follows: soup 3d., main meal 1s. 3d., sweet 4d., hot beverage (coffee) 2d.

The total of the figures on this Daily Costing Sheet at the end of each week should agree with the "Food Consumed" figure in the Weekly Trading Account. The prices on the daily sheet are supplied by the cook and worked out in the office. The costs on the Weekly Trading Account are the actual goods issued from stores, plus the opening stock and minus the closing

stock. These two sets of figures should agree. It would be unreasonable to expect a perfect agreement, as the cook's weights are often estimated; the true figure of goods consumed is the figure obtained from the Stores Requisition Book.

The value of the Daily Costs Sheet to the Catering Manager is immense. He can see at once why his weekly gross percentage alters. X pounds of shoulder of mutton on Monday this week will not provide as many main meals as X pounds of topside last Wednesday. The cost may be higher and the takings may be less. A soup containing milk, and a sweet of fruit tart will cost more than a brown soup and steamed roll. The takings may not alter, but the cost of ingredients does differ. On the day that chips are served, the cost of the meal exceeds (because of the cost of frying-fat) the cost of mashed potatoes. This Costs Sheet provides the Catering Manager with the answer to the question, "Why has the canteen percentage dropped this week?" No sensible director will expect the canteen to produce a similar trading account each week, but he will expect to be told the reason for the change.

The cook, storekeeper (and even the Manager) must never feel that this weekly check is made because there is any doubt of their capabilities or honesty. They may take the attitude—"Things are going very well—why all this bother week by week?" A Canteen Trading Account which shows a consistently good percentage of profit while maintaining a high standard of service should give great satisfaction to the staff.

Complete Accounts.—These are usually prepared by the firm's Accounts Department, because they are the only people who will know what "Overheads" are to be charged to the canteen—items like "Maintenance of Plant," "Heat," "Light," "Depreciation," etc.

The storekeeper must prepare for a physical stocktaking each month, quarter, half-year, or whenever a Statement of Accounts is issued. The stock figures should be actual and not taken from Stock Cards.

The Canteen Accounts, when completed, will probably be in the following form:

TRADING AND PROFIT AND LOSS ACCOUNT

For the Quarter Ended 31st March,

	Shop			Canteen				Shop			Canteen		
	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.
Stock at 1st Jan.	-	-	-	-	-	-	Receipts	-	-	-	-	-	-
Purchases Jan./Mar.	-	-	-	-	-	-	Meals supplied	-	-	-	-	-	-
							to staff	-	-	-	-	-	-
Less Stock at 31st Mar.	-	-	-	-	-	-							
	-	-	-	-	-	-							
Balance Gross	-	-	-	-	-	-							
Profit carried down.	-	-	-	-	-	-							
	-	-	-	-	-	-		-	-	-	-	-	-

INDUSTRIAL CATERING

TRADING AND PROFIT AND LOSS ACCOUNT (*continued*)

	Shop			Canteen				Shop			Canteen		
	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.
Wages, salaries . . .	-	-	-	-	-	-	Balance, Gross . . .	-	-	-	-	-	-
Meals supplied . . .	-	-	-	-	-	-	Profit brought down:	-	-	-	-	-	-
							Shop . . .	-	-	-	-	-	-
Gas . . .	-	-	-	-	-	-	Canteen . . .	-	-	-	-	-	-
Power . . .	-	-	-	-	-	-							
Repairs to plant . . .	-	-	-	-	-	-	Discounts received . . .	-	-	-	-	-	-
Repairs and Maintenance to equipment . . .	-	-	-	-	-	-							
Cleaning sundries . . .	-	-	-	-	-	-							
Laundry . . .	-	-	-	-	-	-							
Printing and Stationery . . .	-	-	-	-	-	-							
Carriage . . .	-	-	-	-	-	-							
General expenses . . .	-	-	-	-	-	-							
Insurance . . .	-	-	-	-	-	-							
Balance, Net . . .				-	-	-					-	-	-
Profit on quarter . . .				-	-	-					-	-	-
£							£						

PURCHASES

A skilful buyer can save money for his firm and also provide a better meal for the customer. While rationing continues, there is not so much scope for good buying as goods are controlled in quantity and price, and, to a certain extent, quality. However, the principle still remains. A good caterer must be a good buyer. In large cities and towns, where there is a wholesale market, advantage should be taken of the goods offered and the consequent economical prices. When this is not possible, then buy from a good butcher and fishmonger. If you can accept a week's supply of meat in one delivery, so much the better, as the week's menus can be planned more easily. Regarding fish, unless you have someone who is expert at filleting, it is best to have this done by the fishmonger. It is worth the extra charge. Greengrocery should be bought from the wholesalers; it may also be possible to contact a market gardener. With regard to groceries and provisions, it is advisable to deal with more than one wholesale firm so that advantage may be taken of different brands of goods.

If you have a good-sized store, supplies of goods that will keep in good condition can be bought in reasonably large quantities. Goods like butter and cooking fat, bacon, etc., should be bought in small quantities.

The storekeeper should keep an eye on the canned goods and look out for "blown" or rusty tins. He should also see that no tin has been pierced by a nail in the packing.

The Catering Manager should take advantage of the best prices, the best discounts and the best delivery service, but above all he should remember that "the best is usually the cheapest."

FOOD RATIONING

As rationing is still in force, the first thing to do before the canteen is opened is to register it as a "Catering Establishment." It is advisable for the Manager to make personal contact with the Food Executive Officer, who can be most useful and will assist or instruct as required.

The most important form is the E.G.C. or return showing the number of each type of meal served. Meals are divided under headings as follows:

Hot Beverage means a hot beverage in which added sugar is customarily consumed, whether served alone or with a meal; it does not mean any spirituous beverage.

Main Meal means a meal (except breakfast) at which is served a course containing a portion of meat, fish, poultry, game or eggs, or a correspondingly substantial dish which is accompanied by:

- (1) a helping of potatoes or other vegetables (including salads); or
- (2) one or two other courses.

Breakfast means a substantial meal served during the normal breakfast period—for example, a meal including porridge, breakfast cereal, fish, bacon, egg or sausage. A meal which includes only bread, toast, butter, margarine or preserves is a tea meal—not a breakfast.

Subsidiary Meal¹ means:

- (1) a meal consisting of sandwiches, meat pies or other snacks, unaccompanied by other courses; or
- (2) any other meal except breakfast which is more substantial than a tea meal but does not contain any course which would make it a main meal.

Tea Meal¹ means a meal at which only articles such as bread, rolls, toasts, scones, buns, butter, margarine, preserves, cakes or biscuits are served, whether or not accompanied by tea or other beverage (hot or cold).

A careful record must be kept of the number of meals served. The return covers an eight-weekly period, and the allocations of rationed commodities are based on these figures. The canteen office staff should be very careful to know just how these figures are arrived at, as a Ministry of Food official may call at any time to check the returns. An allocation of points will also be made.

CANTEEN COMMITTEES

There is little doubt that Canteen Committees are here to stay. Whether individual Managers like it or not, it is a fact that workers have an interest in the operation of their canteens, and feel that they should have some say in their running. The development is in line with the current trend towards greater participation in the management of industrial undertakings, and so

¹ Now added together and recorded in the column "Light Meals."

far as Welfare is concerned (and Catering is a large part of the Welfare service), there is a strong argument for the workers' participation.

Employees who are elected to represent their fellows on a Canteen Committee would fail in their duty if their sole object was the collection of a series of complaints to level at the head of the Manager at the next meeting, if the right attitude is adopted on both sides, the Committee can be of very great assistance. The Management will learn through the proper channels of the feelings of their workers, and the Canteen Manager can also explain the various problems that have to be overcome day by day in order that meals for everyone can be served. There seems to be an erroneous idea among some people that an industrial canteen has so many privileges that the bell has only to be touched to produce any kind of food in unlimited quantities. The real situation can be conveyed to the workers by means of a Committee; and close co-operation between Manager and Committee will benefit all concerned.

MEALS FOR JUVENILES

In 1943 the Government presented to Parliament a White Paper called "Youth Registration in 1942." It summarised the results of a follow-up of the registration of young persons, and the following passage appeared, concerning the use of Factory Canteens by young persons:

"It appears that some young people do not use the canteen facilities which have been made available at most of the larger industrial establishments. They are too often content with scanty meals which do not provide sufficient nourishment, and they need to be educated to make full use of the facilities in factory canteens, which provide adequate hot meals during the dinner hour break. This is all the more important when so many mothers are unable to cook suitable meals at home because they themselves are engaged on full-time or part-time employment on war work."

The Factory Department of the Ministry of Labour urges all employers to take special steps to encourage their young people to make use of canteen facilities. The arrangements will vary in different firms. A full meal can be provided for young persons at a reduced charge, or on a sliding scale according to the age and wage of the worker. A good plan is to inform the parents of juveniles at the time of engagement that they can obtain a full meal at the canteen for, say, half the usual price. It is well known that youngsters are not always aware what is good for them, and therefore it should be stipulated that if they participate in the scheme, they must have the complete meal. The firm will fix the age limit, according to the wage-earning capacity of the juvenile. Some firms supply special meals to young people aged up to sixteen years—other firms include everyone up to eighteen years.

If they express a wish to have meals in the canteen, they should be given a card or disc which will entitle them to purchase a special Juvenile Meal Ticket.

No. 1234	JUVENILE MEAL TICKET		No. 1234
	MEAT COURSE	6d.	
	WITH ROLL AND BUTTER	SWEET	
	NOT TRANSFERABLE		

This should be perforated down the centre, which will allow one half to be presented for the main meal and the other half for the sweet course. Milk puddings should be included every day in the juvenile menu, and fresh vegetable salads, varying according to season, should be prepared daily as an alternative to cooked vegetables.

Reserve special tables for the juveniles; they should be near the windows, so that they can get as much sunlight as possible.

SPECIAL MEALS FOR EMPLOYEES SUFFERING FROM DIGESTIVE DISORDERS

In every factory, a certain number of people will be subject to gastric ulcers and chronic digestive disorders. This can lead to absenteeism unless the patient lives near enough to the factory to enable him or her to have the midday meal at home, where a proper diet can be prepared.

If special meals are instituted in the canteen, they can be planned, cooked and served in strict accordance with medical requirements. The dietary should conform to that recommended by the Ministry of Food in their publication entitled *Diets for Patients with Ulcers of the Stomach and Duodenum*.

The menus recommended are very easy to prepare, but they do call for special interest on the part of the canteen Manager and his staff.

It is often recommended that permission be given to these workers to attend the canteen for a fifteen-minute break in the morning and again in the afternoon, to enable them to buy specially prepared snacks. The management should be careful to see that all people participating in this scheme are recommended by the Works Doctor or some other recognised medical authority—otherwise the specially prepared meals will often attract others who are perfectly fit, to become “gastric” cases.

The number of people requiring special meals is not likely to be excessive, and a section of the canteen can be allocated to the service.

A record should be kept of those cases who regularly use the canteen.

This form should be sent each week to the Welfare Officer, who can judge whether or not the scheme is producing satisfactory results.

INDUSTRIAL CATERING

SPECIAL MEALS FOR GASTRIC CASES

Week commencing Monday.....

<i>Name</i>	<i>a.m.</i>	<i>Midday</i>	<i>p.m.</i>

CATERING TRAINING SCHEMES

In most of the great industries, over a long period of years, a plan of training has been built up, resulting in the "Made in Britain" label being a guarantee of excellence throughout the world.

Up to now there has been no real encouragement for young persons to enter the catering business as a career, with the result that foreigners have predominated in catering and all too often have filled the best positions the industry had to offer. On the Continent, catering has always enjoyed its proper place in the community, and its personnel have had the necessary opportunities to train and qualify for better situations.

During the war years, great attention has been paid to "Catering in Industry," and Personnel Officers should do all they possibly can to attract the right type of employees into the catering department. The Ministry of Education has at last realised the necessity of educating people to take their proper place in the Industry, and it should be the desire of all firms to see that the standards of cooking and service of meals in their own canteen compare favourably with those of the best catering establishments in the country.

The National Council for Hotel and Catering Education is doing a tremendous amount to put the catering industry "on the map." Courses are being run, or are in the process of being formed, in most of the Technical Colleges all over the country. Managements of firms should encourage their young canteen employees to attend these courses; they should be given time off and, if necessary, the firm could pay the fees. It should be remembered that whilst these young people are training, they will, at the same time, be earning their wages. Of course, at some future period they may leave their present employment to take up a better position elsewhere, but, in turn, properly trained personnel from other establishments will take their place.

The Ministry of Labour is making arrangements for school-leavers to enter industries in which there are good sound training schemes.

If the firm is large enough, a form of Canteen Apprenticeship could be instituted; it is imperative that if such a scheme is formulated, it should be acceptable to both the Ministries of Labour and Education. Boys and girls entering the catering department should be offered a three or five years' training in the same way as is done in some of our progressive factories. A condition of this apprenticeship scheme should be that youngsters should attend Technical Colleges and enter for the City and Guilds of London "150 Basic Training," which can be taken in three or, by special arrangement, two years. If the apprenticeship is extended to five years, they can, after taking the Course, enter for the "151" Course, and they should be allowed to carry out in all canteen kitchens, in a practical manner, the cooking theories which they are taught in the Technical Colleges. As a result, a first-class standard of catering will be built up.

After a year or so, the qualities of incoming personnel can be more easily judged. Some will, obviously, remain waitresses, counter-hands or cooks. Some will be worth training for posts as Head Cooks, Managers or Managerses, or on the office side of canteen management.

The Government Departments concerned are doing everything possible regarding the placing of juveniles in industry, but the co-operation of all Personnel Managers is needed in this most important work.

CO-OPERATION BETWEEN PERSONNEL DEPARTMENT AND CATERING MANAGER

A very close liaison should be established between these departments. Both Personnel Manager and Canteen Manager will, in time, get to know the personal feelings of the workers regarding the daily routine in the organisation. An employee will often say something regarding the canteen, if interviewed by the Personnel Manager on quite another topic, and any opinion that would assist in its successful running should be passed on immediately.

It should also be realised that as a factory increases in size, its design may be altered, and employees may be moved from place to place to fit in with the company's policy. These removals should be communicated to the Canteen Manager. It will never occur to the Works Engineer or the Planning Officer to inform the canteen of factory alterations, but the Welfare Office should see that this is done. A very large amount of food and money is often wasted if the canteen takes a trolley of tea and snacks to a certain shop, only to find that everyone has been moved to another part of the factory.

Another instance of thoughtlessness is the Shop Superintendent who orders "Overtime Teas" for a number of people, and then afterwards decides they are not needed and sends them home. He doesn't think of

telling the Canteen Manager, who arranges for tea and sandwiches to be prepared and keeps on an assistant at overtime rate, only to find that it is all to no purpose, and time and food have been wasted.

So many happenings of this kind can occur daily. It is very annoying to the Canteen Manager, and is quite unnecessary if it is realised what an important part the canteen plays in the life of the factory.

RUN YOUR OWN LAUNDRY

The canteen "Washing Bill" is probably never thought of, and yet the sum spent annually on laundry is often quite a large amount. Every week the canteen must send its overalls, caps, tea towels, roller towels, serviettes, etc., etc., to the laundry, and as there is no guarantee that they will come back next week, the stock of linen required must be at least three times as much as is used each week.

It is well worth considering a "private laundry." A good-sized room with a floor that can easily be washed will accommodate enough equipment to cope with the washing of a really large canteen, and may also be able to wash a few of the towels and dusters used in the factory and offices (*see also Chapter 11*).

The equipment required will be difficult to get just now, but in time it will be again available. A large tiled sink for soaking the very dirty articles, a washing machine, a drying machine, and a wringer—all operated mechanically—also good airing or drying cupboards are required. In the centre of the room there should be a large table for folding and also one or two electric irons. The small articles like caps and serviettes should be ironed by hand, but the towels, rubbers, dusters, etc., can go through the wringer.

The Canteen Laundry is something that can be left till things are running smoothly, but it should receive consideration when time permits. It has so many advantages; in an emergency, linen can be washed and returned for use in a day. It saves considerable capital outlay as the stock of linen never leaves the premises.

The initial expenses incurred in installation may be heavy and there is also the cost of the labour to take into consideration, but the whole scheme has so many compensations that firms who have started their own small laundries have never regretted the decision to do so.

PESTS

It is extremely fortunate and also extremely rare to find a kitchen without a certain number of pests—flies and "blue-bottles," crickets, beetles and cockroaches, mice and even rats. If a kitchen is equipped with steam pipes near the floor, the number of cockroaches hidden underneath is almost un-

believable; crickets also are attracted by the heat and are most objectionable. The first essential in dealing with pests is absolute cleanliness. Bits of food left on the floor or in odd corners will soon attract mice, and the amount of vermin in a kitchen can grow imperceptibly, unless steps are taken to prevent it occurring at all. The casual contempt with which the average customer tolerates house-flies is amazing. One would naturally complain if served with a meal on a dirty plate, but most people just flick away a fly and get on with the meal. The house-fly is revoltingly dirty in its habits, and the food that it contaminates can be the cause of many gastric troubles. Canteens can now be treated with D.D.T. (dichloro-diphenyl-trichloroethane) and it is claimed that not only can the existing fly population be destroyed, but premises can be rendered free from flies for months with a single D.D.T. treatment. D.D.T. is a Swiss discovery. A similar British discovery is Gammexane, and the Americans have discovered a new insecticide with similar properties named "Ten-Six-Eight," from its formula which is $C_{10}H_8Cl_8$.

There are many firms which specialise in dealing with the ugly customers on the floors and behind the pipes. They will send an expert to advise, and a man to come at regular intervals to spray the various haunts of vermin. An arrangement should be made with one of these firms when the canteen is built, and then the "pest" trouble can be satisfactorily combated and overcome.

SUMMARY

It is hoped that the information contained in this section will prove helpful to all Directors and Managements. It should assist in the organisation of a department which is becoming increasingly important in the industrial life of our country. The canteen should not be viewed as a means of immediate profit in terms of cash, neither should it be carried to the other extreme, of providing meals at such a low figure that it becomes an anxiety and a burden to both its owners and its customers. It should promote a fellow-feeling between employers and all employees. It should improve the health (and temper) of all who use it, and so bring production to a high standard and prosperity to everyone.

Further information and assistance regarding the planning, equipping and organisation of Factory Canteens will be willingly given at all times by any of the following:

**The Industrial Catering Association,
140, Park Lane, London, W.1.**

**Industrial Catering Managers' Association,
77, Thurlow Park Road, London, S.E.21.**

**The National Council for Hotel and Catering Education,
185, Piccadilly, London, W.1.**

**The Catering Equipment Manufacturers' Association,
6, Holborn Viaduct, London, E.C.1.**

"The Tea Centre,"

Regent Street,

Piccadilly Circus, London, S.W.1.

**The British Electrical Development Association,
2, Savoy Hill, London, W.C.2.**

**The Industrial Gas Information Bureau,
Gas Industry House,**

1, Grosvenor Place, London, S.W.1.

The Coal Utilisation Joint Council,

54, Victoria Street, London, S.W.1.

INDUSTRIAL ACCIDENT PREVENTION

By Charles Fenna

"INDUSTRIAL Safety" has in recent times undergone an important change in that the term "Safety" or "Safety First," which had become degraded, has been superseded by "Accident Prevention." The term "Safety" had, in its well-worn and widely used form of "Safety First," degenerated from an apt abbreviation of a very commendable command to something akin to inferring a negative policy.

This famous phrase or slogan was the railwaymen's condensed version of one of their very early rules which stated that "The safety of the traveling public must be the first consideration of the Staff." A rule to the same effect appears very early on in the present-day railwayman's "Rule Book."

The extensive use of the term "Safety First" outside its original meaning, and also outside its application to railway and industrial accident prevention, had a marked adverse effect, mainly psychological, on many persons within industry. The most regrettable factor was that very many persons in authority developed a sort of negative outlook and interpreted it as "If 'Safety First' is applied, no work will get done." Many persons have been maimed or buried in consequence of this outlook by those in authority over them, and continue to be.

This view is entirely the reverse of the true position, as the job must come first, by which I mean that some job of work must be required to be done before any condition or state exists to which the prevention of accidents can be applied. When the job is known, then the first consideration in the execution of the work to be done should be that of arranging to have the operations carried out with the least possible risk of injury to those who have to do the actual work. No person is entitled to instruct another to do a job in circumstances he knows to be not as free as they could be from the risk of personal injury.

This lack of entitlement brings us to the key-point and the key-stone of the need for accident prevention in industry.

Add to the fact that no person is entitled to expose another to any avoidable risk, the fact that if he does do so, then he has no doubt committed a criminal offence, for that is what non-compliance with the provisions of the Factories Act 1937 and its Orders constitutes.

Consider the point, too, that any time saved, apparently so in some cases and really so in others, by a policy of "anything will do" or "regulations

don't apply to me " will eventually be cancelled out completely by the time lost due to accidents.

Ponder also on these truths :

(a) If lost-time accidents comprise part of your input, to obtain your output you can " cut " that part of the input as it is not necessary.

(b) Increased output can be obtained through freedom from or reduction in accidents.

(c) A policy requiring the prevention of accidents is a factor which causes foremen, charge-hands, etc., to take more notice of the condition of their machines, plant, tools, etc., and this results in fewer breakdowns.

(d) Security of employees from injury and plant output efficiency are so closely associated that they cannot be separated.

(e) If it is bad business to make material scrap, it cannot be good business to make human scrap.

During every man-hour worked there is need for the application of the principles of accident prevention.

Objects of Accident Prevention.—Having heard many industrialists who heartily support a policy of organised accident prevention speak on the subject, it appears fair to say that the objects of accident prevention are :

1. Better business.
2. To ensure compliance with the legal requirements covering the work or processes carried on on the premises.
3. To aid in maintaining or increasing production.
4. To reduce loss of time and inconvenience, increase the confidence of employees in their management and reduce or remove anxiety created in them by fear of injury.
5. To practise a degree of humanitarianism which is in the best interests of industry and the needs of society.

The Responsible Party.—Well, who is responsible for the safety of employees whilst they are engaged on or in connection with their work? Legally, it is the " owner " or " occupier " of the premises wherein the work takes place. In a practical sense this may not be the case in some factories, but it remains that the " owner " or " occupier " cannot contract out of his responsibility.

The urge which bears upon the person or persons responsible for the safety of others in their employ is threefold, being a statutory obligation on the one hand and sound business on the other, with the covering aspect of the moral principle that man should not suffer avoidable death or injury in the service of man.

What is required of an employee is that he should give his service, his work and skill, not his life, limbs, or health !

THE FACTORY—RESPONSIBILITY FOR SAFETY

In any factory where the business and premises are in the possession of a single owner-occupier there is no doubt whatever that he is responsible for maintaining safe working conditions. The same principle of law applies to companies, but the greater the number of persons involved in ownership or the occupation of premises as a factory the less perhaps is the recognition of personal responsibility in each of these persons. Failings likely to arise where collective responsibility exists are overcome in some prominent concerns by the allocation of certain duties to individual directors. There might be found, therefore, in a large firm a director who is responsible, among other things, for accident prevention, and to him the Safety Officer would be wholly responsible. An organisation headed in this manner has a very good chance of success, and the Safety Officer is likely to experience a minimum of fruitless work or of protracted effort to get things done.

When the director who has accident prevention under his wing also controls the manufacturing side of the company, the combination of his seniority in the firm and spheres of responsibility provides the ideal setting in which accident prevention should flourish, as it is then truly what it ought to be, "a function of management."

Having stated the ideal, which applies to all firms possessing a Board of Directors, and bearing in mind the very many and differing schemes or set-ups of factory management which exist, the following basic principles must be regarded if satisfactory results are required:

Accident prevention must be a function of management, and in any firm where this is not so, that firm's responsibility for the safety of its workers is being played with or ignored.

Accident prevention, to be carried on as managerial responsibility, must permeate all grades of management down to charge-hands and setters. If the subject and its object do not make a natural appeal to an individual in the chain of management, he must be made to respond in deference to company policy.

All who have authority to issue instructions to others should be willing disciples of their company's desire to prevent accidents and to comply at least with legal requirements. No one has a right or a privilege which entitles him to expose others to avoidable risk, therefore every branch, twig and leaf must respond to the moves of the managerial "trunk" of the factory tree so that it bears the maximum fruits of production. This it cannot do while any member of the tree harbours an accident-causing parasite.

The responsibility for accident prevention in any factory rests therefore on the shoulders of all grades of management—the directorate, works and department managers and technicians, foremen and charge-hands.

FACTORY SAFETY ORGANISATION

Organised accident prevention in a factory should include:

(a) A Safety Officer to run and maintain the safety organisation. He would be occupied part-time on this duty in the smaller factories, whole-time in medium-sized establishments, and in large concerns he would be assisted by a whole-time staff sufficient to the needs of the organisation. In the smaller factories the production or, preferably, the plant engineer would be a suitable choice to carry out the duties of Safety Officer.

(b) An Accident Prevention Committee formed by equal representation from management and workers (or predominantly workers), but never, if you desire the confidence of your employees, with an outstanding majority of management representatives, nor exclusively from that "side."

(c) Approved procedure through which any employee can freely and easily draw attention to any point which he considers is likely to cause an accident. The raising of such points by an employee should never be dubbed as complaints. Calling attention to a potential source of injury can hardly be a complaint, and no ground for complaining can arise from the employee's side if the point raised receives reasonably prompt or urgent attention as the case may merit. If the execution of a safety job is held up awaiting deliveries, show proof that the orders have gone out and workers will settle down satisfied that the job is surely in hand. They don't mistrust the individual, but they have a doubting element in their make-up, the sure palliative for which is some form of tangible proof.

Any foreman, manager, etc., who persistently refers to safety points raised as being "complaints" clearly discloses an attitude of mind which is a measure of his interest in accident prevention.

(d) Arrangements for the proper control of lifting tackle, cranes, lifts, boilers, etc., and the design, provision and maintenance of guards; in fact, the arrangements should ensure that each safety provision of the Factories Act and its Orders has been delegated to some person to administer.

For example, the Works Engineer is responsible for seeing that legal requirements are covered in respect of boilers and all steam and compressed-air plant.

The Plant Engineer should take charge of cranes, chains, lifting tackle, gas plant and maintenance of guards, whilst the Electrical Engineer or chief electrician would be appointed responsible for the discharge of all obligations under the "Electricity Regulations" and for lifts and hoists.

The Safety Officer should be a person suitable to control the design and provision of guards or at least be the authority for passing guards as safe to apply or to use.

The Safety Officer.—There are comparatively few Safety Officers within industry and, though the number has been increasing annually, there are

probably not more than three hundred and fifty at the present time, a proportion of whom belong to the safety departments of a few very large undertakings. Only a very small number of our Safety Officers have more than fifteen years' experience of industrial accident prevention, and generally they belong to or started with firms who pioneered the prevention of accidents among their employees through organised means and as a part of the function of management.

The above factors, concerning numbers and experience, mean that there has not yet emerged a "standard model" or type of Safety Officer. The variations extant add interest and stimulation to the proceedings at every safety gathering. There are some who swear by propaganda, safety weeks and advertising, while others are firm believers in plant inspections, detail practical work and very close contact with employees as the surest means of success. Types may vary, as they do between the office-trained and the factory-bred Safety Officer; responsibility, however, is not so variable, as everyone has this in a "three-phase" form.

He has a responsibility to his firm, to their employees and to himself. He must do all in his power to ensure that his firm does not fall short of full compliance with all statutory obligations (and should exceed this by all possible measures) to reduce accidents, forestalling them, for preference, or by having steps taken to prevent their recurrence.

He must be capable of holding the workers' confidence, and must therefore not fall into any of the many pitfalls affecting character or knowledge. Above all, he should be scrupulous in his dealings with both sexes and be sure never to disclose his ignorance of a practical point by thoughtless expression of opinion or statements intended to impress. Better to ask questions of the humblest worker than present him with a fluent paradox. As they are the people who suffer the physical injuries, he should be bound by a sense of duty to them to do all in his power to prevent accidents.

To himself he should be true, so that having undertaken the responsibilities of a Safety Officer he will be singularly objective in all his dealings.

Functions of the Safety Officer.—The following provides a general outline of the functions of a Safety Officer; a complete detailed list, even for one factory, would be impossible, as every day brings some new problem.

1. To forward and support the safety policy of the company.
2. To promote schemes to guarantee observance of legal requirements.
3. To act as Chairman, or Secretary or in some other capacity on the works safety committees.
4. To promote formation of such committees where none exist, their increase or subdivision as required to better serve the organisation for safety.
5. To administer a safety suggestion scheme.
6. To control safety propaganda which should be applied in a form covering both staff and workers. The latter are very quick to notice (and resent) the fact if all propaganda is directed to them only.

7. To investigate the causes of injury and the circumstances leading to accident, preferably using the persons concerned in the circumstances (the injured party when possible, fellow-workers, foreman, superintendent, etc.) and the safety committee representative for the department or shop as a committee of investigation. The prime object of any such enquiry should be to achieve prevention of the recurrence of a similar accident.

8. To compile and circulate accident statistics.

9. To act as the company's contact with the Inspector of Factories.

10. To be the firm's link with the Royal Society for the Prevention of Accidents and its representative on the local area Industrial Accident Prevention Group.

11. To co-ordinate the safety effort in every way possible. To circulate all useful information and ensure that any accident-prevention measures initiated in one part of the factory which are applicable to other parts are carried into effect throughout.

12. To adjudicate and advise on the daily problems which he notices or to which he is introduced. There is no limit to the type of problem which may arise: it may be a potential accident circumstance arising out of the temperament of a worker or attitude of mind of a charge-hand or foreman, etc.; a method of stacking; an unusual snag anticipated in a process or operation; he might even be appealed to to have a swarm of bees removed!

Safety Officer in the Smaller Factories.—The Safety Officer in the smaller factories will not be engaged on accident-prevention matters full-time, but whatever other duties he has to perform should not affect his opportunity to forge and maintain an effective accident-prevention organisation. The person appointed to carry out the duties should, of course, be a member of the staff equal at least in status within his small company to his full-time colleague engaged in larger concerns. It is a fact that many persons who carry out the duties of Safety Officer part-time have a comparatively higher status.

THE FOREMAN

The foremen in any factory or business constitute a very important section of the whole life and activity of that industrial unit. There are many ways in which a foreman can misapply his authority and misinterpret his management's policy, but we consider here his effect on one aspect only—that of the safeguarding from injury of those under his control. The dictionary describes a foreman as a "principal workman superintending others." The last two words "superintending others" should be noted very particularly and no opportunity lost to point out in your contacts with a foreman that his right of superintendence over and direction of the activities of other employees affects both himself and them in a very special manner. On the foreman the effect is that with the responsibility given to him by his employer to direct others goes the legal responsibility not to instruct anyone

to carry out an unsafe practice and to prevent employees from indulging, on their own initiative, in similar practices. The employer might encourage a foreman to disregard his responsibilities or discourage him from carrying them out, but that does not reduce that foreman's responsibility, it only involves the other party in an illegal act. Many foremen have a harassing time, most of them are very jealous of their position and, not infrequently, so jealous that it mars their conduct in a variety of ways. He is the "king-pin" on which production—and accident prevention—depend.

The effect of a foreman's superintendence on those he directs is usually very profound, especially on the majority of female employees and on young workers; to them he is, indeed, the management. In the prevention of accidents, as in many other matters, the employee forms his opinion of the directors and management staff through his knowledge of the manner, ways and character of his foreman.

In order that we may place our foreman correctly in the industrial picture our particular factory presents and so obtain a correct regard for his importance in obviating accidents, let us check up on his general functions and responsibilities.

His Functions.—The foreman has functions under production, accident prevention and welfare.

For production, he exists to get good work done in reasonable quantity in any given time. "Reasonable quantity" is stated, as there might be factors outside his control which prevent him getting a predetermined or planned amount of work done; on the other hand, he might by reasonable methods and sound procedure exceed a planned output over a certain period.

His part in accident prevention is outlined to a minimum standard by the Factories Act 1937¹ and the Regulations in force under that Act. He is liable to be prosecuted in respect of any failure on his part to carry out statutory requirements. Whilst he must be concerned with all safety precautions under the Act and its Regulations, he is mostly concerned with Part 2¹ (sections 12 to 37), Part 4¹ (sections 47, 48, 49 and 56, also 57, 58 and 59 when applicable), and he can gauge his own degree of responsibility by studying Part 12 (sections 136, 137 and 138). The duties of persons employed, set down in section 119, do not relieve supervisors of their responsibilities unless they can prove that they had observed any such malpractice as stated and used every reasonable effort to prevent it continuing on each and every occasion it had been observed or had been brought to their notice.

In welfare, the foreman can and should be of great value by being helpful and sympathetic towards those working under him. The progressive development of industrial relations is overwhelming and eliminating the old hard-boiled type of foreman whose main qualification was a capacity to bully; the majority of present-day foremen respond to their humanitarian obligations when these are explained to them in a friendly and sincere manner. Generally, they do a great deal to exclude maiming from manufacture.

¹ See also Factories Act 1948, Sections 11 and 12.

The Foreman's Responsibilities—to his Employer.—He must do all he can to forward the work and business in which he is engaged; apply every effort to avoid mechanical and inter-departmental losses; strive continually to eliminate discontent and friction between employees and between employer and employee.

He should be alert to note faults in methods and to effect or recommend improvements and not be satisfied to jog along in his job, disinterested in any aspect of it simply because he did not originate the method of working.

To his Workers.—Some foremen feel that their responsibility to their workers is entirely fulfilled by making sure that each has enough work on hand and that they do not waste time. Others realise that the responsibilities are much wider and cover, amongst other features, the point of *how* a job is done. Interest in this respect is essential, as a foreman, by virtue of his right to issue a job to a worker, has the legal and moral responsibility to see that that job is started and proceeded with under the safest conditions.

A foreman's responsibility for the safety of his workers extends so far as having to protect them from themselves, in that any disregard for accident preventive instructions should not be allowed, and he should suppress any introduction by them of unsafe practices.

Responsibility to Self.—In all probability prior to promotion the foreman was a good hand at the work, or some part of it, in the activity, trade or shop of which he has been put in charge. He probably applied himself assiduously to the study of many problems directly and indirectly associated with his job, and so helped win his promotion.

He owes it to himself to keep abreast of all developments affecting his class of work and to gain all the benefit he can from the known experience of others.

His ambition should be to lead his workers and not to drive them, and to control his personal conduct so that it will support his leadership.

He should be particularly careful not to introduce any partiality or undeserved selectivity, most especially in his dealings with female and youthful labour.

Legal Obligations of a Foreman.—The legal obligations of a foreman are varied, and range from matters dealing with payment of wages, reasons for dismissals, not exceeding the hours of employment permitted for women and young persons, to all measures for the reduction of risk of accident and personal injury.

Neglect by a foreman of his statutory duties lets his firm down. Such neglect has often led companies into a prosecution in respect of unsafe conditions and to actions for damages arising out of injuries to employees.

Owing to his special grade, a foreman is very liable to find himself prosecuted separately, or in conjunction with his firm, for an offence under the Factories Act 1937.

Points in Accident Prevention.—The first point is, that to the person to

whom you issue a job, you are the management. Put him or her to a job on which an illegal condition exists and you unnecessarily expose that person to injury, and your firm and yourself to the liability to prosecution, whether or not there is an accident.

Secondly, never allow or encourage a worker to do a highly skilled job when he is obviously unqualified and untrained. A common instance of this is that of allowing interference with electrical equipment.

The third point is to realise and remember that neither you, nor anyone else, has the legal right to put an operator to any job which has not been covered by all the means possible to prevent an accident.

Above all, do not succumb to the fallacy that a reduction in output results from insisting on or introducing accident preventive measures. This impression is gained from the immediate effect of changing rhythm, but when the employee has got accustomed to the new sequence of the job, then benefit accrues. If you are inclined to be opposed to accident prevention, in the belief that it slows up production, then search for the truth and ascertain how many cases of proved reduction in output you can find. Set these, if any, against the many cases of proved increase in output. Accident prevention and efficiency are inseparable twins.

Make a point of seeing that your people do not meet with trouble due to lack of information. Encourage them to bring to you any doubts they might have about their job, but do not use their asking of questions as a method of instruction. Tell them all you can about the possible snags in their work. Why instruct an operator on how to avoid turning out bad work and damage to the machine, and neglect to pass on to him the information so necessary to reduce the risk of damage to his person? The trinity—good work, undamaged plant and unharmed operator—is essential to continued production at a high level.

The final point is that the existence of a Safety Officer in your factory organisation does not relieve you of your responsible part in the prevention of accidents. The Safety Officer, by the numerous ways in which he can aid you, helps you to fulfil your part the better.

The key-point is this—"The power to put persons on production carries the privilege to protect them."

THE ROYAL SOCIETY FOR THE PREVENTION OF ACCIDENTS

The Royal Society for the Prevention of Accidents, popularly referred to as "Rospa," is a voluntary organisation, entirely devoted to its single object. Whilst actively engaged in pursuing its objective in all spheres and activities where the toll in accidents requires attention, it is from the Society's Industrial Division that industry can—and does—reap much benefit. Rospa Headquarters is located at Terminal House, 52 Grosvenor Gardens, London, S.W.1, and the Director and Staff of its Industrial Division are housed at 131 Sloane Street, London, S.W.1.

The Society is a non-profit-making body supported in the main by subscriptions and the small charges made for services, etc. The subscribing members may be industrial firms, business houses, employers' organisations, trade unions, educational establishments, local authorities, etc.

The part of the Rospa organisation which appeals to those interested in the prevention of accidents within industry comprises the following set-up:

1. The Industrial Division and its services which include:

- (a) A technical information service and library;
- (b) The issue of periodicals, pamphlets, booklets and posters on industrial accident causes, injuries and prevention, etc.;
- (c) A Safety Officer Consultant Service;
- (d) An annual Congress and promotion of conferences;
- (e) Arrangement and management of training courses for Safety Officers.

2. Regional Industrial Groups, the organisation of which is explained later.

3. A professional section, membership of which is open to persons who are professionally engaged in accident prevention in industry, full or part-time. This section is the Industrial Safety Officers Section (I.S.O.S.), particulars of which can be obtained by applying to the Director of the Industrial Division of the Society at 131 Sloane Street, London, S.W.1.

The Group System.—This system is a natural development in local areas of the parent body. There are over thirty such groups operating throughout Great Britain, each centred on an important industrial area. A prime aim of each group is to give special consideration to the accident causes and problems of prevention affecting its member firms. Variations exist in the formation of groups, and all possess a large measure of autonomy.

Many area groups are by their own decision independent formations affiliated to the Society, and these include the special local forms which use the term "Council" instead of "Group" and embrace within their ambit road safety and other kindred interests external to industry.

The executive membership of most groups and councils is made up of representatives of subscribing firms, honorary membership being extended to, and accepted by, the Inspectors of Factories in the areas. The Factory Department has always given full support to the area group, and inspectors have played an important part in the formation of several groups.

A member firm has full liberty in determining who its representative on the local group shall be. The Safety Officer, where one exists, is the natural choice; in other cases it might be a Director, Works Manager, Production Manager, Engineer, Personnel Manager, Welfare Officer, Senior Foreman, Shop Steward, Nurse, selected member of the Works Safety Committee, or other functionary as the firm determines.

The Scunthorpe Council.—Members of management, as representatives of firms, predominate in most groups, in some cases exclusively, but there is a

notable exception in the case of The Scunthorpe and District Industrial Accident Prevention Council, the constitution of which, in respect of membership, is based on the principle of equal representation of management and workers, with provision for the balance to be maintained at each and every meeting. The outstanding features of this Council are the complete balance of voting power between management and workers, and a membership confined to representation of bona-fide accident prevention committees operating in any member factory in the area. By constitution, the number of representatives from any works Accident Prevention Committee is limited to four maximum, two of whom shall be members of the management of the factory and two workers. Any variation from four must be by two representatives, one each from management and employees. It is also provided, in order to maintain balance between the two sides, that proxies shall be sent to any meeting by each side to cover absence of an elected member. H.M. Inspector of Factories for the district, or his nominee, is by constitution a member of the Council in an advisory capacity.

The objects of this Council (given below) are, except sub-item 5, similar to those of most other groups and councils. Sub-item 5 makes it obligatory that members report Council business to the Accident Prevention Committee which they represent.

Objects:

- (a) To further the cause of accident prevention (in the area covered) by:
 - (1) Discussion of methods of accident prevention in general;
 - (2) Discussion of selected accidents occurring in various factories as brought up by the members with a view to obviating recurrence;
 - (3) Increasing their knowledge of accident prevention through periodic lectures, films and other media;
 - (4) Encouraging the training of young persons in accident prevention;
 - (5) Reporting upon the activities of the Council to the respective works Accident Prevention Committees;
 - (6) Taking part in the scheme of interchange of minutes of the other Industrial Accident Prevention Groups who are affiliated to Rospa.
- (b) To foster the existing spirit of co-operation between employer and employee in accident prevention.

Add to the above the study of the Factories Act and Statutory Orders affecting safety as a prominent feature, the arrangement of visits to the works of member firms, the value of informal talks between members and benefits from contacts made, and you obtain sufficient data on which to assess the value of the local group system. Each group is self-supporting; the amount of the subscription requested from each member firm is determined by the group.

Group Advisory Council.—A representative body known as the Group Advisory Council is elected by and from the groups. Its principal object is

to advise groups on general matters and the Rospa organisation on matters affecting the groups.

Road Safety—Drivers' Competition.—The Royal Society for the Prevention of Accidents has for many years operated a "Safe Driving Competition" with awards ranging from a "Diploma" for one year of certified safe driving to a silver medal for five and a gold medal for ten such years consecutive, and on through other awards to a twenty-five years' cross. It is of great benefit to a firm to have their drivers registered in this continuous competition, and drivers have considerable pride in adding to their award. The period covered for the purpose of award is the calendar year, and details of the conditions can be obtained from the Manager, "Safe Driving Competition," the address being that of the Society's Headquarters.

The Industrial Safety Officers' Section.—Individual membership, the first qualification for which is that the applicant shall be employed professionally wholly or part-time on accident prevention within industry, is the basis of the Industrial Safety Officers' Section. Its constitution is framed on lines similar to those of any other professional institution, and one of its main objects is to set at a high level the proficiency and knowledge of Safety Officers and to become, in its present form as part of Rospa, or otherwise, the professional organisation of the Industrial Safety Officer.

The time is drawing very near when all further applicants for membership will be required to pass a qualifying examination or satisfy the Executive Committee as to their qualifications in and knowledge of Industrial Accident Prevention.

The General Secretary of the Section can be contacted through the Director, Industrial Division, Ro.S.P.A., 131 Sloane Street, London, S.W.1.

THE FACTORY DEPARTMENT

The Factory Inspector for the district, whoever he may be, is usually well known to certain members of the staff, or to the owner of each "factory" in his area. He is equally well known to the Trade Union leaders in the area. It is right that he should be thus well known, for he is the local administrator of the provisions of the Factories Acts 1937 and 1948 and the Orders in force under that Act. He is the field worker of the Factory Department which, under the control of the Ministry of Labour and National Service and through the Chief Inspector of Factories, is responsible for seeing that "owners," "occupiers," "persons employed" and others carry out the duties legally placed on them by the above-mentioned Act and Orders throughout England, Scotland and Wales. Northern Ireland has a parallel arrangement.

The Chief Inspector is assisted by Deputy Chiefs and Specialist Sections.

* As the activities of groups, like so many aspects of industrial life, are rarely publicised in the Press, any firm desiring information about the nearest group might obtain this by contact with other firms in the area, and will certainly obtain it from the Director of the Industrial Division of Rospa or alternatively the Inspector of Factories for the area.

The territory covered is divided into Divisions with a Superintending Inspector in charge, and each Division is, according to local needs, subdivided into Districts. In the latter, you get the inspector for the district, your local friend.

The Specialist Sections are staffed to deal with matters and problems relating to engineering, chemical hazards, fire and explosion risks, safe use of electricity and medical affairs.

Whilst the raising of prosecutions for offences under the Factories Act is an integral part of their administrative business, a true picture of the worth and practical objective of the Department cannot be obtained from this aspect, except by recognising that the number of prosecutions each year is probably very small indeed compared with the number of offences known to them. Many people in industry dislike "the Inspector," and why? These people are usually those who have no intention of applying the provisions of the Factories Act to their buildings, plant or activities until compelled to do so; and their resentment to the Inspector is born out of their own lack of responsibility.

The worth of the Department is vested in the fact that it has a mass of accumulated knowledge of industrial processes and hazards which it has built up over many years and has several Government research departments and prominent industrial concerns and societies disposed to assist it—it has a remarkable store of information or means by which to obtain the latest information or lines of thought on industrial hazards.

The chief practical objective of the Department appears to be that of wanting to serve your needs and be of assistance. Its officers are willing to help, ready to do so, and they want to do that in preference to any other line of action open to them. They have to administer the Factories Act and much prefer to see its provisions willingly complied with, as, after all, the provisions set a minimum standard of requirements for safety, health and welfare of employees.

The Safety, Health and Welfare Museum at 97 Horseferry Road, Westminster, is a monument to the time and trouble the Department is prepared to take to assist you in combating accidents and industrial diseases, and is well worth several visits.

Number the Inspector of Factories amongst your friends.

THE FACTORIES ACT 1937—GENERAL SURVEY

The Factories Act 1937 is the Act which governs all industrial premises and activities in which persons are employed by way of trade or gain in an establishment, or under the conditions which are included under the meaning of "factory" in section 151 of that Act. Should there be any doubt as to whether any premises wholly, or as separate buildings on a factory site, are, in fact, within the scope of the Factories Act, reference should first be made to section 151 and if, after scrutiny and study of this section, doubt remains, then the matter should be taken up with the local District Inspector

of Factories. If it is found that the premises and/or activity carried on does, in fact, come within the interpretation of a "factory," the notification of its occupation must be sent to the Inspector for the district, giving such particulars as are called for under section 113. The notification of occupation must be sent within one month¹ of the commencement of the occupation, otherwise an offence is committed each day that gainful occupation has been carried on beyond the period of one month. As we are here interested in a survey of the Factories Act, we must assume that your premises, business or activity, site, etc., do come within its scope.

The Factories Act 1937 was passed on the 30th July, 1937, to consolidate the Factory and Workshops Acts 1901 to 1929 and to secure amendments to those Acts, also to embody certain other enactments affecting "factory" conditions. Its provisions became effective generally on 1st July, 1938. Allowances of time were provided for in which to comply with certain provisions. The longest delay permitted was under section 2 relating to the amount of space to be allowed per person. In some instances, the delay in changing from 250 to 400 cubic feet per person could be up to ten years from the passing of the Act. This period expired on 29th July, 1947.

Being a consolidating Act, there is no need to search farther back than the Factories Act 1937 for the law governing the conditions under which work is to be done in factories.

Many Statutory Rules and Orders,² also several sets of Regulations controlling "Trades" classified as dangerous, were in operation under the provisions of the earlier Acts and practically all these were carried forward and remain in operation under similar powers provided in the Act of 1937, together with additions made since that date.

Offices housing clerical and administrative staffs are not within the control of the Factories Act, but works offices situated in workshops, such as foremen's and shop clerks' offices and their occupants, are not exempt. It has been held in law that blue-print rooms come within the scope of the Act, as the work of turning out blue-prints is as close akin to production for manufacture of parts and assembly as are the tools used for the purpose.

Research laboratories are also outside the scope of the Act, whilst process laboratories controlling the quality of material and goods under manufacture are within its provisions. This state of affairs leads to confusion and misconceptions, particularly in those laboratories in which both functions are served. It is well that mention should be made here of those firms who, having research laboratories and also a pride in their accident prevention policy, apply that policy to their research departments and to their offices.

Salesrooms are not within the scope of the Factories Act, but the warehouse or "goods outward" area of a factory should not be interpreted as a salesroom.

¹ One month before occupation is now required (see Sec. 113 as amended in First Schedule, Factories Act 1948).

² Now known as "Statutory Instruments."

Parts of the Act.—The Factories Act 1937 is divided into fourteen parts. Each part includes those sections the provisions of which are closely related to a specific phase of industrial conditions, namely:

Part 1.—Primary principles for safeguarding health. It is arranged to create a standard of cleanliness, prevent overcrowding, maintenance of a reasonable temperature, drainage of floors and the provision of sanitary conveniences. It includes the powers necessary to enforce the application of the health provisions and also power to require medical supervision in any factory where it is suspected that cases of illness amongst employees may be due to some aspect of their work or conditions, or when illness results from the introduction of a new process or change in any existing process.

Part 2.—This Part contains twenty-nine sections and is the second largest in the Act. All the sections concern requirements for the prevention of accidents either by way of laying down the extent of and need for fencing dangerous parts, declaring specific parts of mechanical contrivances to be dangerous, defining protective measures necessary to safeguard persons from immersion in dangerous liquids and the movement of parts on self-acting machines. It also prohibits the cleaning by women and young persons of certain classes of machinery when in motion and the cleaning of any machinery if there is a risk of injury from moving parts on that or any adjacent machine.

Power is conferred on the Minister concerned, to declare by order a type of machine to be dangerous and to require the training of young persons before they are set to operate any machine so scheduled. *Inter alia* it deals with safety precautions on hoists, lifts, cranes and lifting tackle, floors, steam boilers, steam and air receivers, the presence of dangerous fumes, explosive or inflammable dust, gas vapour, means of escape in case of fire and safe access to all positions at or from which work is done.

This Part, as the soul and the body of accident preventive legislation, will be dealt with later, by sections.

Part 3.—This Part deals with the elementary necessities for a decent standard of welfare and comfort in general throughout industry, i.e. the supply of drinking water, facilities for washing, accommodation for clothing and, for women employees, facilities for sitting down as opportunity may allow. With regard to this latter provision in the Act, many, if not most, of the industrial concerns of note and repute endeavour to seat female workers at their jobs, with the option, of course, of standing if they wish, thereby going considerably farther than “to enable them to take advantage of any opportunities for resting which may occur in the course of their employment”—this phrase is really taken to mean substantial relaxation.

Minimum standards are set with regard to the provision of materials for use in rendering first-aid, the arrangements being made on the basis of the number of persons employed in the factory. Care of the contents of first-aid boxes has to be assured by placing each box in the charge of a responsible

person, and these persons have to be trained in first-aid in all factories where the number employed at any one time exceeds fifty persons. The person in charge has to be readily available during working hours—an official interpretation of working hours has not been made in the Act, and it is generally taken to mean normal working hours of any day or shift scheme, and not to include overtime. Ensuring the presence of a qualified person at times required can be satisfied only through a surplus of trained persons and an organised scheme for covering absences.

The provision of an ambulance room is not called for specifically in the Act in respect of any industry, but, under power given to the Minister in this Part of the Act, ambulance rooms are required in Chemical Works employing 250 or more persons, in ship-building yards (not being Public Dry Docks) employing 500 or more persons or more than 100 if the yard is more than two miles from a hospital, also in all factories classed as Blast Furnaces, Copper Mills, Iron Mills, Foundries and Metal Works if the total number employed is 500 or more persons.

Many progressive managements have provided and staffed ambulance rooms voluntarily. When an ambulance room has been provided, whether compulsorily or voluntarily, the occupier of the factory can apply for exemption from the need to provide first-aid boxes. The Chief Inspector can, by certificate, exempt the occupier wholly, or in part, or under conditions he may state on the certificate.

In addition to the power invested in the Minister to make regulations concerning the matters dealt with in Part 3 of the Factories Act 1937, he has power to extend the matters to include additional features affecting the welfare of employed persons generally, or any branch of them.

Most of the regulations in effect under this section of the Act originated under powers given to the Secretary of State for Home Affairs by the provision of section 7 of the "Police, Factories, etc. (Miscellaneous Provisions) Act" of 1916, which was repealed when the Factories Act 1937 came into effect.

*Part 4.*¹—The seventeen sections included in this Part 4 of the Factories Act 1937 state the law with regard to conditions which, if uncontrolled and allowed to exist, would affect health or safety or welfare or, as in most conditions or occupations regulated by this section, would have a dual or triple-fold effect.

The intermingled interests of the subjects dealt with obviously led to their being listed together under the group title of "Health, Safety and Welfare (Special Provisions and Regulations)."

Part 4 has a very great bearing on accident-producing factors and conditions, and invests the appropriate Minister with very wide powers to enable him to make special regulations for the safety and health of those employed in factories where he is satisfied that a need exists.

This Part and its sections are dealt with more fully after this general

¹ See amendments set out in Sec. 12 of Factories Act 1948.

survey along with Part 2, with which it ranks in many respects in the importance of its contribution to accident prevention.

Part 5.—Deals with the notification and investigation of accidents, dangerous occurrences and industrial diseases.

Sections 64, 65 and 66 concern the occupier of premises as they impose on him a duty to notify the Inspector for the district which includes the premises concerned.

Reporting of Accidents.—Section 64 requires the loss of an employed person's life due to accident in the factory to be notified immediately. First report by telephone to the Inspector is the usual procedure, followed by notice in the prescribed manner on Form 43. It further requires a notification to be made (using Form 43) when any person employed is, by disability arising out of an accident in the factory, prevented for more than three days from earning full wages at the work at which he was employed (section 64 (1) (b)). If after notification on account of three days' total incapacity the injured person dies, the death must be reported to the Inspector as soon as it comes to the knowledge of the occupier.

The instruction appears simple, but it is not uncommon to find that some servants of occupiers believe they are in order in reporting a non-fatal injury case any time after three days' absence, whereas the instruction clearly says "forthwith" which means normally on the fourth day of the absence of the injured person.

The date of injury and that of subsequent loss of time do not affect the need to notify the Inspector, e.g. if a person's first absence for more than three days due to an accident is six months, a year, or more after the occurrence notification is required to be made. On the other hand, once such notification has been made and the injured person suffers a recurrence of lost time in respect of that accident, no further notification is required except in case of death due to the effect of that accident.

In outlining the need to report in non-fatal cases of injury, I have mentioned three days' absence from work, as "absence from work" has always been the general measure of disability to earn full wages. The factory inspectorate appears to accept this view, although the wording of section 64 (1) (b) "disables any such person for more than three days from earning full wages at the work at which he was employed" does not specify absence from work to be the measure nor does it infer that it should be the measure as did the "Factory and Workshop Act" 1901, which in section 19 (1) (b) stated "such bodily injury as to prevent him on any one of the three working days next after the occurrence from being employed for five hours on his ordinary work."

The wording of section 64 (1) (b) of the 1937 Act, strictly interpreted, means if the job a person was doing at the time of the accident has to be changed consequent upon the nature of the injury sustained, then that disability from earning his full wages at the work at which he was employed

should cause the occupier to report the accident if it lasts more than three days.

It is realised that this interpretation affects the cases under the modern and ever-increasing principle of providing light work or rehabilitating work whereby lost time is avoided. It applies to all non-lost-time cases where the class of work is changed for more than three days irrespective of earnings, as the victim is not "at the work at which he was employed."

It is assumed that the factory inspectorate is loath to place any hazard or impedance in the path of the development of light or alternative work or rehabilitation, which is mainly carried out under medical recommendation and supervision of the injured, as being the reason for not taking action when such cases continuing for more than three days are not reported.

No report to the Inspector for the district is required of any accident if it is reportable under the conditions of the Explosives Act 1875 or the Petroleum (Consolidation) Act 1928 and has, in fact, been reported as so required; it is an act of courtesy to the Inspector for the district to make a report of any such case to him and such an act is usually much appreciated.

The occupier is responsible for notifying all reportable accidents which occur on his premises whether the injured worker is one of his employees or the employee of another. Reputable employers whose workers happen to get injured whilst on other factory premises make their own report to the Inspector and inform the occupier concerned that they have done so, but this commendable discharge of the need to report does not reduce the liability of the actual occupier to see that a report is made.

Notification of Dangerous Occurrences.—Under section 65, the Minister has the power to make Orders requiring the notification of any occurrence in a factory whether such occurrence causes death or disablement to an employee or not.

The dangerous occurrences which must be reported to the Inspector in the same manner (Form 43) as accidents are set out in S. R. & O. 1935, No. 1046, which is applicable to all such dangerous occurrences in all premises, establishments and factories to which the Factories Act 1937 applies.

Industrial Diseases.—In any and all such cases believed to be suffering from lead, phosphorous, arsenical or mercurial poisoning, or anthrax, suspected of being contracted in a factory, the doctor called to the patient is required under section 66 (1) to report such cases to the Chief Inspector of Factories, and under subsection 3 of the same section the occupier of the factory at which it is believed the case occurred is required to notify the Inspector for the district in the same manner as for accidents. That is, to report a death immediately, a case of illness immediately after the patient has been three days incapacitated from earning full wages at his own job, and should death supervene, to report that as soon as it becomes known. Form 43 is the appropriate form for reporting a case.

In addition to the above industrial diseases actually set out in the Factories

Act 1937 (section 66), there are others which are the subject of Regulations or Orders, and these are toxic jaundice, epitheliomatous and chrome ulceration, carbon bisulphide, aniline and chronic benzene poisoning, manganese poisoning, compressed-air illness (result of working in a pressure greater than normal atmospheric pressure) and toxic anæmia.

Industrial dermatitis has not so far been scheduled as an industrial disease, but it is the practice of some firms to report any cases which occur.

Part 6.—With 31 sections, this Part is the largest in the Act and deals entirely with regulating the conditions of employment for women and young persons. A notice (Form 11) must be exhibited in the factory, stating the periods of employment on each day of the week and the intervals for meals and rest. Subject to limitations as to maximum number of hours in any period, or any day or total for the week, variations on different days are allowed and limitations are set on the amount of overtime permissible.

No change must be made in the periods of work, etc., as posted on Form 11 before the Inspector for the district has been notified and a notice of intention to change the hours has been posted in the factory. Further to this, an occupier is not allowed to make changes in times of starting and stopping, etc., more frequently than once in three months without permission in writing from the Inspector.

This is an extremely important part of the Act, but cannot be dealt with fully here as the provisions mainly fall within the functions of the Personnel Department, although it is by no means unusual for the Safety Officer to aid compliance with the requirements of the Act in respect to all those matters which affect women and young persons. It is most desirable that the Safety Officer should be well acquainted with the provisions of sections 70 to 100 (both inclusive) which form Part 6 of the Act, and he can generally obtain valuable assistance in this respect from the Personnel Manager.

*Part 7.*¹—Special applications and extension of specified parts of the Act to premises such as tenement factories, electrical stations and institutions and to activities such as at docks, wharves and quays, construction and repair of ships, building work and work of engineering construction, etc., are applied under sections 101 to 108 (both inclusive) in this Part. Further, it includes section 109 which extends to the employment of women and young persons in any place other than a factory, the provisions relating to their employment in certain processes connected with lead manufacture and processes involving the use of lead compounds, also the need for a doctor to report to the Chief Inspector and the employer to report to the local Inspector any case of lead poisoning (as similarly required in section 66).

It also extends to these processes, in any other place than a factory in which women and young persons are employed, all the provisions of the Act relating to powers and duties of Inspectors, to offences, penalties and legal proceedings.

Part 8.—In this Part are two sections only, numbers 110 and 111, dealing with "home work." There are a large number of trades carried on by

¹ As amended by Sec. 14, Factories Act 1948.

means of home work, the employer giving out work and materials from some centre which is the factory, or engaging one or more contractors to handle the distribution and collection of work.

As it is very unlikely that any Safety Officer will be concerned with provisions of this Part, it will be left that he refers to this Part 8 should he need to and also looks up any Home Work Orders then existing in force. At the present time, there are five such Orders.

Part 9.—The shortest Part of all—it has one section (112) referring to textile factories, to cover certain particulars relating to piece-work and wages and to give the employer protection against the divulgence of trade secrets by a factory employee through the medium of information received, and against any person who procures a person employed in a factory to obtain information for him about a trade secret.

It also empowers the Minister to apply the provisions of this section 112, in full or modified as he thinks fit, to classes of factories other than textile factories or to any class of persons of whom lists have to be kept as outworkers (Part 8 and the Home Work Orders in force) and to their employers.

There are twenty Orders, the first dated 1900, which remain effective, and relate to more than double that number of processes in which piece-work prevails to a very large extent, and to outworkers in certain trades.

Part 10.—This Part is comprised of nine sections dealing with an assortment of responsibilities lying on the occupier of a factory. Stated very briefly, the employer is required to give notice of occupation within one month¹ after starting to use any premises as a factory.

If an occupier is operating a factory without mechanical power, he must if he installs mechanical power give notice of this within one month¹ of first putting it to use in the factory.

At the main entrances to factory premises, or elsewhere as an Inspector may direct, there must be kept posted, conveniently situated and kept legible, the official abstract of the Factories Act; the address of the Inspector for the district and that of the Superintending Inspector for the division, also the name and address of the Examining Surgeon for the factory. Provision is made for the insertion of these addresses and the names on the official Abstract of the Act (Form 1). It should be noted that the address only of each Inspector has to be posted. Very often the name of each Inspector at the time of posting the notice is given and this creates a need to carry out unnecessary corrections to the form.

If an Inspector has, by notice in writing, named a public or other clock open to public view for the purpose of regulating the intervals allowed for rest or meals (women and young persons, sections 72 (a)) a notice stating the clock has to be posted. As a point of note, there is an increasing inclination to use the service of TIM where it is available. This seems an admirable arrangement as providing a reliable base for checking time. The service is open equally to all who may avail themselves of it, but it is not a "clock

¹ Sec. 5 of Factories Act 1948, requires notice "... not less than one month before."

open to public view," although this does not appear to be any disadvantage. The disadvantages are that a charge is made for each check on the time and an employer might refuse to allow his telephone to be used for the purpose.

There must also be posted every notice and document required by the Factories Act to be posted. The particular notices, etc., to be posted vary according to the nature of the factories. A copy, or official abstract, of any special regulations (dangerous-trade regulations, etc.) which apply to the work carried out are to be posted, not necessarily at the entrances to the factory; in fact, several such regulations are required to be posted in the workshop to which they apply.

In addition to posting copies of special regulations, the employer should keep a number of spares, as he is required to give one to any person affected by them, on that person's application.

No one is allowed to pull down or damage any statutory notice.

The occupier has to keep a general register and section 116 gives an outline of some of the subjects of which prescribed particulars are to be entered into or kept with the general register. In addition to the matters mentioned in that section can be added dangerous occurrences, reports on the examination of hoists and lifts, reports on the examination of boilers (including economisers and superheaters), steam receivers, air receivers and water-sealed gasholders of over 5,000 cubic feet capacity.

The general register and all records required to be kept under the Act must be preserved for two years after the last entry is made (see section 117) or last certificate attached. This provision for preservation applies to all registers and records, including *inter alia* records of examination, test and inspection of chains, ropes, lifting tackle, cranes and lifting machines.

A list of employees, giving the particulars called for in respect of them, is required to be sent to the Chief Inspector by the occupier of a factory at intervals of not less than one year. The appropriate Minister can call for a similar return to be made by the occupier of any other place to which the Act, in any respect, applies.

The employer is not allowed to pass on to his employees his cost incurred in complying with the Act. Weights, measures, weighing and measuring instruments used in connection with assessing wages must comply with the provisions of any Act governing the use of weights and measures, and they are liable to be inspected by a Weights and Measures Inspector.

The duties of persons employed falls within the scope of this part of the Act. As an extremely important, greatly neglected and much-debated subject, it appeared well to leave this section defining the duties of those employed (No. 119) until the other points in Part 10 had been cleared away.

What makes it important? It is the fact that it places upon persons employed certain duties, which are right and properly placed. An occupier cannot be responsible for deliberate acts of commission or omission executed without his knowledge, or in defiance of his instructions, and beyond any

reasonable degree of diligence he might exercise to prevent such acts. No doubt our legislators were concerned with this aspect of industrial life.

It is greatly neglected by reason of the fact that very few employees make themselves acquainted with section 119, although it appears as item 51 on the abstract of the Act posted primarily for their information and benefit in each factory. Also the extent to which its provisions are unknown suggests that no special effort is made by Trade Unions to bring them to the notice of and to be appreciated by their members. Another angle which maintains neglect is that the section is addressed to the "person employed," and although there is no interpretation in the Act of "person employed," it is taken to mean workers who have no supervisory status. This meaning has very much been confirmed by the grade of those who have been charged under the very few prosecutions which have been taken by the Factory Department in respect of offences under section 119.

Improved results could be looked for and obtained if this section included employed persons of all grades in a factory. Many grades, it will be appreciated, have, by the powers of direction and supervision vested in them by their management, an important effect for good or ill on the health, safety and well-being of those employed on the factory floor. The grades referred to sometimes create, maintain or do nothing to remove conditions which they know, or ought to know, will lead to accidents or affect health, and when a worker falls victim to the circumstances over which they have control, and those circumstances are an infringement of the Factories Act or Regulations or Orders made under the Act, they are usually conveniently placed on account of not being "the occupier."

The "Duties of Persons Employed" is much debated amongst Safety Officers, Personnel Managers and amongst supervisory grades. The reason appears to me to be that it is looked on by many persons as an easy way out of their anxiety and responsibilities. Strict compliance by the worker would result in his putting up with a great deal of discomfort and inconvenience, which it is unreasonable to expect of him. Behind the reasoning put up for greater enforcement by the Factory Department of the duties of persons employed, appears to lie the principle that he should do all the avoiding of accident or illness arising out of his work. Some workers, youths and men, very rarely women or girls, do neglect their responsibility or shirk it, generally under the urge of either an incentive to increase earnings or laziness; but on the other hand, supervisors do likewise, prompted by blind allegiance to output or laziness in that they are not prepared to think of ways of increasing safety and preserving health. The extent to which employees infringe section 119 varies inversely to the efficiency with which the factory staff carries out its responsibilities.

The worker must not wilfully interfere with or misuse anything provided under the Act for securing the health, safety or welfare of those employed. Where such things are provided for securing his own health and safety, he

is required to use them. No one employed anywhere under the Act shall wilfully and without reasonable cause or objective do anything likely to give risk to himself or others. Many wilful acts which have led to accident have been done as a result of a reasonable cause or objective, but without knowledge or appreciation of the possible consequences.

Part 11.—This Part deals entirely with matters of administration of the factory inspectorate and servants of County and District Councils who have duties to perform under the Factories Act, and who, in this Part, are given the same powers of entry into a factory and protection from obstruction in the course of their duties (section 128 (5)) as are Factory Inspectors (section 123).

Arising out of these powers of entry and interrogation, etc., it is interesting to note that any official acting for the local authority is not allowed to disclose to anyone any information he obtained within a factory concerning any manufacturing process or trade secret, other than any disclosure necessary in the performance of his duties, under pain of a fine of £100 or three months' imprisonment. Factory Inspectors are probably bound to a similar extent to secrecy, but this is not made clear as subsection (6), section 128, refers to those Local Authority Inspectors operating under subsection (5) of the same section, and section 128 (3) and (4) do not clarify the point.

The main points of interest in this Part arise out of the powers of the Inspector (Factory Department or Local Authority) who might visit your premises. He may call for entry at all reasonable times by day or night, i.e. any time; in fact, if he has reasonable cause (possibly information forwarded to him) to believe that anyone is working within, he can require any person he finds within a factory to give him all the information he can concerning the identity of the occupier and examine alone or in the presence of others, as he wills, any person in a factory or those he has good grounds to believe worked there within the previous two months, or any young persons in the occupations dealt with in section 98 (1).

He may require any person he rightly interrogates to sign a declaration of truth relating to the information given by that person.

Any person can refuse to answer any question by, or withhold any information from, an Inspector which would tend to charge himself with an offence.

The Inspector's right of entry must not be denied nor obstructed. Request for the production of his certificate of appointment to be shown to the occupier or a person holding a responsible position in the management of the factory before entry is no "obstruction" if carried out promptly, particularly when in the case of the first visit of an Inspector. In practice, the Inspectors within a district become known to factory personnel, commissioners, etc., and entry is effected without any delay.

Part 12.—Offences, penalties and legal proceedings greet you in the heading of this Part. What, in the form of a general guide, does it all amount to?

Except in those few cases and circumstances where the Act places responsibility on others (the owner of premises or person employed, etc.), the occupier is guilty of an offence in every event in which a contravention of any provision of the Act, or Regulations or Orders made under the Act, occurs.

If an occupier has availed himself of any special exception provided for and does not keep to the conditions applying to the particular exception, he commits an offence.

When any contravention affects the working conditions of more than one person—for example, a number of similar machines each with an operator and each similarly without necessary guards, or unsafe access by which a number of persons have to reach their place of work—an offence occurs in respect of each employee jeopardised by the non-compliance with the Act, Regulation or Order, as may be the case.

In the case of a company being the occupier, any Director, Manager, Secretary, or other official of the company can be charged with any offence as above, if the offence was committed with their consent, connivance, or out of their neglect.

The offences are criminal offences and are each tried in the first instance in a Police Court. The general liability on conviction for an offence under the Act is £20, and £5 per day if the offence continues after conviction. The court may make an Order designed to remedy the condition which was the subject of conviction.

Should any person be killed or suffer bodily injury arising out of a contravention, a fine of up to £100 may be imposed on the occupier or owner of the factory, irrespective of any other penalty. No liability to a fine exists if the death or injury arises out of a condition which was the subject of a prosecution resulting in dismissal prior to the death or injury.

If a young person is employed under conditions which do not comply with the Act and to his or her parents' knowledge and with their consent, then the parent is liable to a fine of up to £5.

A fine of up to £100 or three months' imprisonment may follow any act of forging a certificate, making a false entry or a false declaration.

Where the actual offender is not the occupier or owner, though the latter is liable, that actual offender is guilty of the offence and liable to a like fine as if he were the occupier.

An occupier-owner can by showing that he used all due diligence to enforce the provisions of the Act or Regulations, and can show that some other person did in fact commit the offence, free himself from liability and bring about the conviction of the other person.

An Inspector may also proceed against some person other than the occupier or owner. The owner or hirer of a machine may be charged with an offence instead of the occupier where the machine in respect of which an offence has been committed is situated in a factory and the person employed at or about the machine is in the service of the owner or hirer of the machine.